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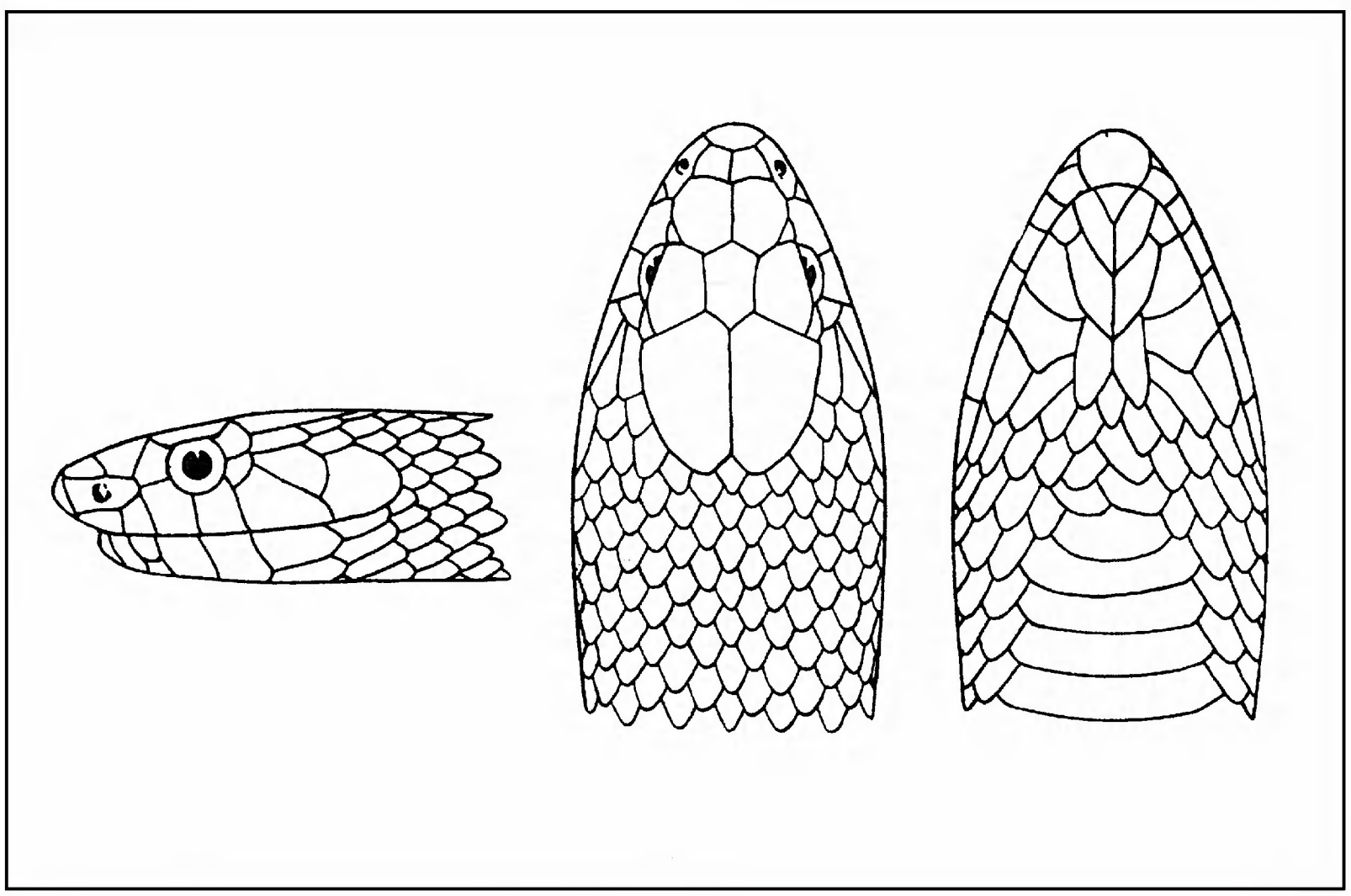

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Notes on Mexican Herpetofauna 8: Herpetofauna of the Parque Ecológico Chipinque, Nuevo León, Mexico

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Abstract

Herpetological richness of the Parque Ecológico Chipinque in Nuevo León, Mexico, was studied during a 13-month period. All specimens observed were registered. Various ecological parameters were recorded: hour of day, temperature, altitude, sky condition and degree of exposure. Biological parameters were also taken, such as sex, total length, snout-vent length and physical appearance. Whenever possible the specimen was photographed. All specimens were identified; those found dead were catalogued and deposited in the collection of the Facultad de Ciencias Biológicas U.A.N.L. The herpetological inventory given here for the park includes species from literature reports and from preserved collections, as well as those observed during the study period. The list contains seven anuran species from three families: Leptodactylidae — 4 species; Bufonidae — 1 species; Hylidae — 2 species. Reptiles are represented by 15 species of lizards and 23 of snakes. Five families of lizards are present: Phrynosomatidae — 9 species; Scincidae — 2 species; Anguidae — 1 species; Teiidae — 1 species; Xantusidae — 1 species. Four families of snakes are represented: Leptotyphlopidae — 1 species; Colubridae — 18 species; Elapidae — 1 species; Viperidae — 3 species. The herpetofauna of Nuevo León consists of approximately 142 species of amphibians and reptiles, while this ecological park harbors a total of 45 species, about 32% of the state's herpetofauna.

Keywords: Herpetofauna, Nuevo León.

Introduction

Mexico encompasses one of the most complex mountain systems in the world. The relatively abrupt elevation changes have resulted in a very diverse mosaic of habitats. This topography includes many and diverse chains of valleys, hillsides and mountain ranges. Such ranges as the Sierra Madres Oriental and Occidental, and the Transvolcanic mountains in the center and south of Mexico, form incredible landscapes resulting in a great diversity of plant and animal species, which are still being identified.

The Parque Ecológico Chipinque is located in the state of Nuevo León, México. The total area of the park is 1625 ha, with 1012 ha lying in the municipality of Garza Garcí a and 603 ha in the municipality of Monterrey The park is bordered to the southeast by the metropolitan area of Monterrey. To the south is the Sierra Madre Oriental. To the north, east and west are the rapidly developing human communities of Joyas del Venado, Renacimiento and Olinalá. The park is within the protected area of Parque Nacional Cumbres. In latitude it extends from 25°33′ to 25°35′ N, and in longitude from 100°18′ to 100°24′ W. This zone is considered to be part the National System of Natural Protected Areas (Arriaga et al., 2000; Anonymous, 2000). The park remains in excellent condition, even though it receives thousand of visitors per year.

Because many of the amphibian and reptile species present in Parque Ecológico Chipinque are found throughout the state, there is a considerable amount of literature available on their distribution. Since the 1940s many national and international herpetologists have added to this literature. Some of the more important and relevant articles, notes and theses are: Aseff-Martí nez (1967); Banda-Leal et al. (2003); Benavides-Ruiz (1987); Bryson et al. (2003); Conant and Collins (1998); Conroy et al. (2005); Contreras-Arquieta (1989); Dixon and Vaughan (2003); Horowitz (1955); Julia-Zertuche and Treviño (1978); Knight and Scudday (1985); Lazcano et al. (1992); Lazcano et al. (1993); Lazcano et al. (1996); Lazcano, Bando-Leal et al. (2004); Lazcano, Contreras-Balderas et al. (2004); Lazcano and Contreras (1995); Liner (1964, 1966); Liner and Dixon (1992); Martí n-del Campo (1953); Martin (1955a, b); Nájera (1997); Smith and Álvarez (1974); Smith and Taylor (1945, 1948, 1950, 1966); Treviño (1978); Vallejo (1981); Velasco (1970). These past contributions to the herpetology of Nuevo León provide a strong basis for future research.

Studies of the relationships between the herpetofauna and plant communities are very important to understanding the current status of the herpetofauna in these communities and the degree of adaptation or colonization. In this study we identified the herpetofauna present in a very popular metropolitan park,"Parque Ecológico Chipinque." The herpetological distribution within the several plant communities was determined and compared with other areas of the state.

Methodology

The study site comprises a 1625-ha polygon that is characterized by the presence of the following different plant commu-

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2. Laboratorio de Herpetologí a, Museo del Desierto, Pról. Pérez Treviño, 3745, Parque Las Maravillas, C.P. 25050 Saltillo, Coahuila, México.

nities: Submontane Matorral (600– 2000 m elev.); Oak– Pine Forest (975– 2220 m elev.); and Pine– Oak Forest (1075– 2220 m elev.). The composition of these plant communities is discussed below.

Thirty-six visits were made to complement the existing herpetological surveys of this park. Monthly routes were assigned from March 1999 through December 2000. During the winter months of November, December, January and February only two daily visits were conducted. Daytime visits were also determined by weather conditions.

Before starting our sampling, linear transects were established, taking into consideration such factors as length, width, type of surrounding vegetation and routes that had previously been used by visitors. These transects ranged from 0.4 to 6.4 km in length and between 4 to 6 m in width. All plant associations were recorded when a species was observed.

All species were observed or captured in situ, considering those areas proposed by Alaní s-Flores et al. (1995, 1996), Alaní s-Flores (1999, 2000) and Jiménez-Pérez et al. (1998). These activities were conducted in the daytime from 1000 to 1800 h, with 8 effective hours of collecting. We made an effort to conduct searches in all different climate conditions present in the park, for example on rainy days and on those days with very low humidity.

The search technique we used was described by Campbell and Christman (1982), and consisted of localizing and capturing the specimens wherever they were found, under or over rocks, logs, vegetation or artificial cover. The specimens were collected using typical herpetological equipment: nooses, leather gloves, rubber bands, collecting bags. Animals that were not going to be collected were photographed and released in situ. When necessary the taxonomic status was corroborated by transporting the animals to the lab for identification. Specimens that were found dead or needed for identification were later deposited in a preserved collection (Colección Herpetológica de la UANL), assigning every specimen a catalogue number and the corresponding information. All specimens that were collected or observed were identified based on criteria from Conant and Collins (1998), Smith and Taylor (1966), Stebbins (1985, 2003), and accounts from the Catalogue of American Amphibians and Reptiles published by the Society for the Study of Amphibians and Reptiles.

Besides the data for each specimen (total length, snout– vent length, sex, weight), environmental data were taken such as: temperature, barometric pressure, altitude, relative humidity, type of substrate, and plant community (as per Alaní s-Flores et al. [1995, 1996]).

Results

A total of 36 trips were conducted to Parque Ecológico Chipinque. Using data obtained in the field from the specimens collected/observed, data from preserved specimens in the scientific collection of the faculty (FCB-UANL) and data from the scientific literature, a herpetological list (Table 1) was developed for the park area. For each species the list includes distribution within the park's plant communities and protected status, if applicable (Anonymous, 2001; Norma Oficial Mexicana 059-2001). We recognize that other species may be found in the future. For instance, as some areas are buried and become drier, they could be re-colonized by species that are now found only at lower altitudes.

The herpetofauna of Nuevo León consists of approximately 142 species of amphibians and reptiles (http://www.fcb.uanl.mx/esp/herpetologia/index_her.html), while Parque Ecológico Chipinque harbors 45 species, 31.7% of the state's herpetofauna.

Amphibians are represented by three families of anurans: Bufonidae with 1 species, Leptodactylidae with 4 species and Hylidae with 2 species. Reptiles are represented by 5 families of lizards and 4 families of snakes. Lizard families are: Anguidae with 1 species, Phrynosomatidae with 9 species, Scincidae with 2 species, Teiidae with 1 species and Xantusidae with 1 species. Snake families are: Leptotyphlopidae with 1 species, Colubridae with 18 species, Elapidae with 1 species and Viperidae with 3 species. This comes to a total of 45 species: 7 of anurans, 15 of lizards and 23 of snakes.

The greatest number of observations were of lizards, this due to the fact that most lizard species are diurnal and thus were active during our sampling hours (1000– 1800 h). Anurans were the least represented group, probably due to their nocturnal activity, their need for higher humidity, and their use as retreats of hollow logs (pine or oak), or other high humidity microhabitats that were not sampled.

Biotic Plant Communities

The main representative plant communities of the Sierra Madre Oriental and the Gulf Coastal Plains are present in the Parque Ecológico Chipinque, where the altitude ranges from 600 to 2000 m.

The presence of these plant communities has promoted an increase in conservation strategies within the park. Alaní s-Flores et al. (1995, 1996), based on scientific and taxonomic studies of this section of the Sierra Madre Oriental, describe three different plant communities in the park: submontane matorral, oak– pine forest and pine– oak forest. Below we briefly characterize these plant communities.

Submontane Matorral Biotic Plant Community

This is a very rich bushy formation, easily distinguishable from the others. The size and distribution of the dominant and codominant species depends highly on water disposition, soil thickness and fertility. This community covers the lower slopes (600– 1200 m elev.) which are widely distributed within the park, and is differentiated from the subhumid forests found on the higher mountain slopes (1200– 2000 m elev.).

The most abundant and dominant species of this community found in the park are: barreta (*Helietta parvifolia*), anacahuita or Texas olive (*Cordia boissieri*), tenaza or ape's earring (*Pithecellobium pallens*) and chaparro prieto or blackbrush acacia (*Acacia rigidula*). In some areas of low humidity, rocky calcite and mainly thin soils, thorny species dominate. These

species are huizache or sweet acacia (*Acacia farnesiana*), hierba del potro or Mexican holdback (*Caesalpinia mexicana*) and mesquite or honey mesquite (*Prosopis glandulosa*).

Oak– Pine Forest Biotic Plant Community

This temperate oak– pine forest community was most abundant between 975 and 2200 m elev. The main elements of the oak forest are trees and shrubs between 15 and 20 m in height, with *Quercus* as the dominant genus. The following species are typical: encino de asta or Compton Mexican loquat-leaf oak (*Q. rysophylla*), encino roble or Mexican white oak (*Q. polymorpha*), encino memelito or Lacey oak (*Q. laceyi*), encino molino or live oak (*Q. virginiana* var. *fusiformis*), encino duraznillo or Canby oak (*Q. canbyi*) and encino blanco or white oak (*Q. laeta*). Other associated species are: madroño or madrone (*Arbutus xalapensis*), cerezo negro or American cherry (*Prunus serotina)* and nogal encarcelado or Mexican walnut (*Juglans mollis*). Some of the pine forest elements are also found here at low density.

Pine– Oak Forest Biotic Community

The pine– oak forest can be found from 1075 to 2220 m elev. It is an open, pine-dominated forest community with species from 10 to 20 m in height. The pines are rarely found in a pure stand, but rather are associated with the oak species and madrones of the area, such as those mentioned above. The characteristic pine species are: pino colorado or twisted-leaf pine (*Pinus teocote*) and pino blanco or white pine (*Pinus pseudostrobus)*. Some of the oak forest elements are found here in moderate density.

Discussion

The herpetofauna of Parque Ecológico Chipinque was characterized, and found to consist of 45 species of amphibians and reptiles.

The low number of anuran and snakes observed in the park during our study was due to that fact that our surveys and sampling were done during daylight hours, decreasing our opportunity to observe many species. A very strict policy of the park is that after 2000 h no one is allowed to walk around the premises. Table 1 displays the number of species found in each plant community. Habitat use depended on the species, but within the plant community if there were rock walls, fallen logs, and bark, this increased the number and frequency of each species.

The most common group observed during the study were phrynosomatid lizards. Of the 15 species on the list, 11 were observed during our sampling hours, almost always associated with sunny days and high temperature, and using various substrates (rocks, live or dry logs, and magueys, *Agave* spp.). Of the phrynosomatid lizards *Sceloporus torquatus binocularis* was the most frequently observed species, followed by *Sceloporus grammicus disparilis* and *Sceloporus cyanogenys*. These were all typically found along trails with rock walls, on the ground between magueys and logs.

The anguid species *Gerrhonotus infernalis* was the fourth most observed lizard in the park. Its activity was always associated with trails and especially with surface debris.

Species such as *Sceloporus parvus parvus* and *Sceloporus marmoratus* that are relatively common in the southern portion of the mountain area of the state and suspected of being in the park were not found. Park rangers (pers. com.) mentioned observing *Sceloporus parvus parvus* in an area known as "La Meseta," but our searches during the study period were negative.

Rattlesnake species previously reported from the park are *Crotalus lepidus morulus* and *Crotalus molossus molossus*. During our study period we ourselves did not observe any, but again park rangers mention observing them in the higher altitudes of the park (1600– 1800 m elev.). After the study period we found a pair of *Crotalus atrox* (UANL-5966 and 5967) in the Submontane Matorral biotic community. This was the first time this species had been reported. The *C. atrox* were found very close to developing human neighborhoods (*colonias*); this is a very exclusive site in the Monterrey Metropolitan Area. The specimens were deposited in the herpetological collection. This strengthens our expectation of finding *C. molossus molossus* in the area. In other mountainous areas of Nuevo León we have always found this altitude gradient: *C. atrox* up to 2000 m; *C. molossus* from 300 to 2500 m; then *Crotalus lepidus* from 500 to 2600 m. This vertical distribution of the three species is mentioned by Werler and Dixon (2000).

At the end of our sampling we found our first specimen of *Hyla miotympanum*, which was found at the northern limit of the park. The Mexican treefrog, *Smilisca baudinii,* is found farther north than the park, and has been encountered together with *H. miotympanum* in the mountain ranges in the municipality of Santiago (Benavides-Ruiz, 1987). In addition, calls of the Mexican treefrog have been heard often by park rangers, along with those of *Eleutherodactylus augusti* in areas such as "La Manzanita." We presume these species to be present in the park.

This is one of very few studies that have been conducted for montane areas in the state. Even though the state has mountain ranges throughout, few have received the attention of the herpetological community, especially areas to the north of the state, like Sierras Mina, Gomas, Bustamante, Lampazos and Sabinas Hidalgo, from which we have very little material deposited in the preserved collection. We hope to encourage others to proceed in this direction for the benefit of the herpetological diversity of the state. It is important to mention that if serious and dramatic actions are taken by the federal government in the coming years, the mountain areas put aside for conservation by federal (Arriaga et al., 2000), state and municipality governments perhaps will be the last reservoirs of Mexico's extraordinary herpetofauna. But we must not leave all the work in the hands of the government; in the future it must also be the responsibility of every Mexican national and every tourist or foreign resident.

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Table 1. The herpetofauna of Parque Ecológico Chipinque, its distribution in the different types of plant communities and status in the Norma Oficial Mexicana (059-2001). Status codes: A = amenazada (threatened); E = endemica (endemic); Pr = protección especial (special protection). Recent taxonomic changes follow Crother et al. (2003).

Species	Submontane matorral	Oak– pine forest	Pine– oak forest	Status
Amphibia: Anura				
Eleutherodactylus augusti ‡		X	X	
Eleutherodactylus cystignathoides campi ☼	X	X	X	
Eleutherodactylus longipes ‡	X	X		
Leptodactylus fragilis ‡	X			
Bufo nebulifer ☼	X	X	X	
Hyla miotympanum ♦	X	X		
Smilisca baudinii ‡	X	X		
Reptilia: Lacertilia				
Gerrhonotus infernalis ☼ †	X	X	X	
Sceloporus cyanogenys ☼ †	X	X	X	
Sceloporus grammicus disparilis ☼	X	X	X	Pr
Sceloporus minor ☼ †	X	X	X	
Sceloporus olivaceus ☼ †	X	X	X	
Sceloporus parvus parvus ☼			X	E
Sceloporus poinsetti poinsetti	X			
Sceloporus spinosus spinosus ☼		X	X	
Sceloporus torquatus binocularis ☼	X	X	X	
Sceloporus marmoratus ‡	X	X		
Sceloporus consobrinus ‡	X			
Plestiodon brevirostris pineus ☼	X	X	X	
Scincella silví cola caudaequinae ☼ †		X	X	Pr, E
Aspidoscelis gularis gularis ☼	X	X		
Lepidophyma sylvaticum ‡		X	X	Pr, E
Reptilia: Serpentes				
Leptotyphlops dulcis ☼ †	X	X	X	
Coluber constrictor oaxacae ☼ †	X	X		A
Diadophis punctatus regalis ‡	X	X	X	
Drymarchon corais erebennus ‡	X	X		
Drymobius margaritiferus margaritiferus ‡	X	X		
Lampropeltis mexicana ‡		X	X	A
Leptodeira septentrionalis septentrionalis †	X	X		
Leptophis mexicanus ‡	X	X		
Masticophis schotti ruthveni †	X	X		
Pantherophis bairdi ☼ †	X	X	X	
Pantherophis emoryi ♦	X		X	
Rhadinaea montana ☼ †		X	X	
Salvadora grahamiae lineata ‡	X	X	X	
Sibon sartori sartori †		X	X	

Table 1 (cont'd).

Species	Submontane matorral	Oak– pine forest	Pine– oak forest	Status
Sonora semiannulata semiannulata ‡	X			
Storeria hidalgoensis †		X	X	
Tantilla atriceps ‡	X	X		A
Tantilla rubra †	X	X	X	
Thamnophis cyrtopsis cyrtopsis ‡		X	X	A
Trimorphodon tau tau ‡		X	X	
Micrurus tener †	X	X	X	Pr
Crotalus atrox ♦ †	X	X		Pr
Crotalus lepidus morulus ‡		X	X	Pr
Crotalus molossus molossus ‡		X	X	Pr
Number of species found	33	40	29	
% of total herpetofauna found	71.1 %	88.9 %	62.2 %	

☼ Species found in the Parque Ecológico Chipinque during the study.

♦ Species found in the park after the study period.

† Species found as DOR or reported by the park rangers during the study.

‡ Species that were found in the area and deposited in the UANL collection or reported in the literature.

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Herping in Australia–Field Notes and More
Part 14: Northeast Victoria: Frogs and More!

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Genoa

My "day job" is writing books about corruption in government. Following publication of *Smuggled* in 1993, I began working on a book about police corruption in Victoria. Officially this doesn't exist, but I found enough to fill three books totaling about 1,800 pages and nearly a million words. All have been published and that was but a mere fraction of what I found out.

The consequences of the books were many and included the premature departure of Police Commissioner Neil Comrie two-and-a-half years before his contract expired as well as several hundred other police who suddenly retired early. While a number of people adversely named in the books were subsequently charged with criminal offenses and some even jailed, the scandal is with those who were equally guilty and who escaped due to their positions and protection by others in positions of power. But that's another story and one not relevant here.

Like any other corruption whistle blower, I didn't escape all this unharmed. To try to stop the books coming out, corrupt people in the government charged me with numerous fictitious crimes (I was eventually exonerated), raided my house and stole my files and did everything else they could to stop the books from ever coming out. Included in this campaign were my unlawful jailings for a week in 1995 and for four months in 1997.

Following the brief stint in jail in 1995, a heavily armed police raid on my house and a few other obstacles in terms of writing my police corruption books, Rob Valentic set about convincing me to take time out and go with him to northeast Victoria in search of reptiles and frogs. I wasn't too keen on the idea because I already had photos of most of the species found there and so I saw little to be gained in such a trip. But eventually he twisted my arm (metaphorically) and convinced me to go.

I remember when he did this. He was at my house and he rang a friend of his in the northeast Victorian town of Genoa. His name was Clinton Logan and he is also a herper. Rob said, "Look, you're gonna come up on the Cup Weekend." This is the four-day holiday weekend that coincides with the Melbourne Cup, Australia's most famous horse race. Rob continued: "Logan reckons he's overrun with *aurea* and he wants you to come and check the place out."

By *aurea* he meant the green and golden bell frog (*Litoria aurea*), which is one of those species whose numbers have declined sharply in southeastern Australia over the last twenty

years. As they were by now supposed to be rare, the idea that they were in plague proportions just seemed a bit rich. But Rob called me to the phone. "Listen to this!" Shoving the handset to my ear, the sound of frogs calling was deafening. From what I was hearing, this made the alleged plague of frogs in ancient Egypt seem tame! Were the calls *aurea*? Don't ask me. There were so many different calls in the background, I couldn't tell what was what, but like I said, the noise was deafening. And so Rob was able to convince me to take a break from the corruption and go frogging.

Genoa is hardly close to Melbourne. A six-hour drive away, it is a one-horse town on the main Princes Highway, which runs more-or-less along the coast to Sydney. Other than the general store, there's not really much else there.

Yes, it's basically a dot on the map. It is just on the Victorian side of the border with New South Wales and near the beachside tourist town of Mallacoota, which is off down a side road. Mallacoota is unknown to most Sydneysiders, but is well known to Victorian herpers. You see it's one of the southernmost places to catch diamond pythons (*Morelia spilota*), and the only place in Victoria a herper usually gets a chance at finding any. Here they are usually found in the trees and other vegetation by the side of the bay and along watercourses.

Prior to this trip, I didn't know much about this part of Australia at all. Sure I'd driven through here a few times when driving from Sydney to Melbourne, but as for stopping here? Well, I'd never considered it. From the road, all you see is just an endless alternation between cleared paddocks and farms and forested hills that have a general lack of rocks and other things that make the terrain look inviting to go herp hunting.

As it turns out, this part of Victoria has by far the highest species diversity of frogs of anywhere in the state. That's about 17 species. Not as good as Wyong/Ourimbah just north of Sydney, but still good by Australian standards. And as for the reptiles, it's probably somewhere near the top in terms of Victorian species diversity as well!

And so it was that on 4 November 1995 we headed off to Genoa in Rob's car. Driving through Gippsland in eastern Victoria, we stopped at a herpish-looking swamp 4 km west of the Dargo Road turn-off. This is a few hours east of Melbourne on the main highway and by the time we got here it was about 11.30 A.M. The weather was overcast but fine and fairly still, with an air temperature of about 21°C.

The habitat was a swamp on the side of the road with burnt-out environs behind. The swamp was one that had formed in the hollow where the dirt had been moved to build the roadway above the level of the adjacent ground. There were numerous blackened, dead logs on the ground. There was little in the way of ground cover other than sedge grasses and scattered logs. There was no major undergrowth. Dominant plants included eucalypts and banksias on a sandy, well drained soil.

So what did we see? In just ten minutes this was our species total:

- 4 southern water skinks (*Eulamprus tympanum*), 2 adults, 2 juveniles, with yellow flushes and a pronounced black reticulated pattern ventrally, all found sheltered beneath logs.
- 4 garden skinks (*Lampropholis delicata*) adults, active and under cover.
- 4 weasel skinks (*Saproscincus mustelina*) adults, under cover.
- 1 male eastern banjo frog (*Limnodynastes dumerilii*) found under a log on the edge of the swamp with freshly laid spawn. The eggs showed no signs of having developed tadpoles. No female was seen.
- 1 spotted grass frog (*Limnodynastes tasmaniensis*), sheltered beneath a log.
- 2 common eastern froglets (*Ranidella signifera*), found under cover.

All are common species in this part of Australia and so neither of us were particularly overawed with what we found. However it did show that even in Australia's far southeast there are plenty of critters to be seen. And not only that, but none of these species will ever be found in the tropics. Er, except perhaps for that feral population of *Limnodynastes tasmaniensis* near Kunnanurra in the Kimberley region of Western Australia.

Mount Raymond National Park

Now that's a good name for a National Park isn't it! By 2 P.M. we had made it further down the main highway to about here. This next spot we decided to look for reptiles was just past Orbost, heading towards Genoa, about 65 km from the small township of Cann River, in far northeast Victoria. The area from about Orbost along the main highway to about Eden in New South Wales is one of the least populated and traveled parts of either state. While on the main Princes Highway, most Sydney/Melbourne traffic invariably uses the Hume Highway, which cuts diagonally across the inland areas of both states and is a nine-hour drive (nonstop) versus about 15 hours.

Added to that, the general lack of farming, tourism and other population generating industries, you find the region has very few people and very little through traffic. And so, although you are in Australia's extreme southeast, which rests in the most populated part of the country, you simultaneously find yourself in a relatively remote and little traveled area.

So what was the habitat at this next roadside stop? It was a gently sloping area, with a westerly aspect, adjacent to a large linear swamp. The area had been burnt out and had blackened trees. There were numerous fallen logs. There was little in the way of grasses and regrowth. The slope was mainly vegetated with eucalypts and bracken, while the swamp had thick tea tree (*Melaleuca* sp.) thickets.

The cloud cover at the time of our hunt was about 80%, but the weather seemed to be generally humid and sunny, with an air temperature of 21°C. In case you are wondering how I am always able to quote the temperature at a given time, the answer is simple. I have a habit of carting a thermometer with me whenever I go anywhere!

In just 25 minutes we found the following species:

- 1 southern water skink (*Eulamprus tympanum*) adult and

under cover.

- 1 White's skink (*Egernia whitii*).
- 5 garden skinks (*Lampropholis delicata*) active and under cover.
- 5 grass skinks (*Lampropholis guichenoti*) active and under cover.

Again they were all common species in this part of the world and all are best described as "feed skinks."

However their importance to the local ecology should never be underestimated. You see where there are lots of lizards, the snakes invariably follow. And here's the proof! Not far beyond this spot we found an adult tiger snake (*Notechis scutatus*) that had been taken out by another car and had its guts strewn all over the road. It was an adult male measuring 1580 mm total length. It'd been killed within 10 minutes of being found some 20 km before Cann River on the main Princes Highway, at about 3 P.M. The snake was dorsally dark brown in color, with faint bands. It appeared to be in good condition and had obviously not had trouble finding food.

About half an hour after leaving the above herping spot, we arrived at Cann River for a food stop. Other than a petrol station– general store and a caravan park, there's not a lot at Cann River. As we alighted from the car, the heavens opened and we were treated to one of the most violent thunderstorms I've ever experienced. In the space of about 20 minutes we experienced torrential winds, massive hailstones and saw trees and structures blown down by high winds. The storm appeared to be associated with some kind of front and served as in indicator of what was to be the defining feature of the next four days—rain!

As the storm cleared we headed on to Clinton Logan's property. Five kilometers beyond Cann River we stopped our car for yet another freshly road-killed snake. This time it was an 1140 mm adult male red-bellied black snake (*Pseudechis porphyriacus*).

To get to Logan's place, Rob knew exactly where to go. We turned off the main Princes Highway a few kilometers before the Genoa general store and headed down a dirt track known as Jones Creek Road to get there. Logan's place was on the edge of the Genoa River some 25 km from the coast. He lived in a clearing just above the river's floodline and generally surrounded by semicleared woodland and low hilly country.

Going slightly further afield, the area was mainly virgin bush. The habitat was mainly woodland, including some areas being cleared with grassy paddocks and farm dams. In a few spots were rock outcrops, the rock being a form of pink and blue (Devonian) granite. There were also sandy areas covered in heath and similar scrubby vegetation. Cutting through all this were watercourses ranging from small gullies and creeks, to the larger streams and then the Genoa River itself, which at this stage had an exposed rocky bed, interspersed with sandbanks.

In this riverbed was a series of rapids and slower flowing pools, the riverbed itself being about 50 meters wide. While the river looked like it could carry a sizeable amount of water, the flow was small enough to allow one to cross the river by hopping on exposed rocks at narrow points. The water was also very clear. In its lower reaches (including from beyond the main Princes Highway) and also on the opposite side to where Logan lived, the river had a large floodplain which was generally cleared paddock. This floodplain was traversed by a mass of swamps, pools, gullies and man-made dams.

Perhaps the most interesting fact to emerge upon our arrival was that the severe thunderstorm we'd experienced 50 km earlier at Cann River had never made it to Logan's place and while the weather was now overcast and beginning to drizzle, it was generally dry and there had been no heavy rain at that stage, either on this day or in the weeks preceding. That the thunderstorm experienced at Cann River had been part of a front system was indicated by the general drop in temperature. And while Genoa and Logan's property had been spared the full force of the storm, the air temperature was down to 16°C when we got there just before 5 P.M.

Logan and his wife Debbie took us around the house to show us around. As we walked into the riverbed I couldn't help but lift some of the loose stones that were all over the place. Within minutes I found a number of small Lesueur's treefrogs (*Litoria lesueuri*). These are a riverine species of ground-dwelling treefrog and finding them was not a surprise. I've caught them in similar situations in New South Wales.

Prior to getting here, Rob had told me that he wanted to photograph Blue Mountains treefrogs (*Litoria citropa*), which was a species he'd never previously encountered. The books said they occurred in northeast Victoria. Based on my own previous experience of the species, I'd told him not to get his hopes too high in terms of us finding any. Generally I've found that around Sydney (the only general area I'd caught them before), the frogs only turn up occasionally and even then, usually only in ones or twos. Even in their better areas, I've often chased herps for days and not seen the species.

Anyway, within minutes I'd proved myself wrong when I lifted yet another rock in the riverbed to find an adult male Blue Mountains treefrog. That was a good start to the trip. Already Rob declared the entire trip a success based on this find alone.

His view was understandable, as anyone whose seen the species will attest. Although not a large species (they are a medium-sized frog), they do have an undeniable beauty. They are a greyish brown with distinct and large flashes of red and green.

We walked back towards Logan's house, a wood and fibro shack in the middle of a clearing. As we did so, we walked along a drainage ditch, which in wetter times would carry a small stream of water or have been swampy. The grass was long. Above a seepage I nearly tripped over an adult female green and golden bell frog (*Litoria aurea*). It was sitting out in the open and on a log, making no attempt to escape. I picked up the frog to see the masses of unfertilized eggs inside its abdomen.

On the final 20-meter trek to the house proper we lifted bits

of wood and a few sheets of metal to find the following: 1 common froglet (*Ranidella signifera*) under a log, 6 garden skinks (*Lampropholis delicata*) found adjacent to the house under tin and other ground debris, 2 grass skinks (*Lampropholis guichenoti*) found under cover near the house, and 2 weasel skinks (*Saproscincus mustelina*) found under cover near the house.

As Logan showed us his own reptile collection, in a shed adjacent to the main house, the rain started to set in and it got heavier.

A Night of Frogs, Frogs and More Frogs

Following dinner we decided to get down to the serious business of frog hunting. By then it was dark and although there was a moon in the sky, the cloud cover was good enough to keep it totally obscured most of the time. We searched for frogs from 10 P.M. to 2 A.M. the next morning. The air temperature ranged from 16°C down to 14° later in the night, while the rain stopped and started through the night.

But even when it wasn't raining the air was always humid. In fact this was one of the things I've noticed about northeast Victoria (including Genoa) on this and subsequent trips to the same area. The air masses here are of the same warm and humid nature as those found all along the New South Wales and Queensland coasts. This is as opposed to the cold dry air masses usually seen elsewhere in Victoria, including Melbourne.

We were prepared for our frog hunts. We each had those cheap but powerful waterproof torches you can buy in almost any decent hardware store. That the torches are waterproof was just as well, as I tend to go in for the hunt boots and all, so to speak. I won't hesitate to go flying into a dam or river after something that's jumped in.

That's not to say I always manage to grab it! Our first site was a large dam a few hundred meters up the hill from Logan's house and still on his property. They called it the "Upper Dam." It was a large open dam of about a hectare in water surface area. It had discarded tires built into a retaining wall and dense vegetation on the other three sides, including tussock grasses, a few bulrushes and sapling *Melaleuca*.

Dominant were the Peron's treefrogs (*Litoria peroni*), that were all over the place. On every tire there was one or more frogs perched and sitting. They obviously sought out these higher points immediately adjacent to the water's edge. In about 20 minutes we estimated we saw about 500 of these frogs between us. That is a crude estimate of course, but gives you a good indication of the sheer numbers.

Logan told us that three weeks earlier (when he'd spoken to us on the phone), the situation around the dam had been different. Then, the dominant species had been green and golden bell frogs! We rummaged around the heavily vegetated parts of the dam as well. You see there were species calling besides the Peron's treefrogs.

In amongst the thicker vegetation we managed to turn up the following frogs:

- 8 green and golden bell frogs, plus another on the open ground.
- 1 male Haswell's froglet (*Crinia haswelli*).
- 1 whistling treefrog (*Litoria verreauxii*).
- 2 common froglets (*Ranidella signifera*)

The Haswell's froglet was a species I didn't recall having seen previously, and so for the first time this trip, I felt like I'd gained something in terms of having a personal herping "first."

A Night Drive

From here we drove on the dirt road towards the main Princes Highway, then along the Highway to Genoa and then towards Mallacoota before ending up at the Gypsy Point Hotel.

To give you an idea of the terrain traversed, the dirt track ran through timbered country and sandy heaths, and passed over some creeks and gullies. This area also had numerous ditches and soaks along the road itself. The Princes Highway ran down a hill, adjacent to a rocky Creek and the Genoa Falls. Part of the creek is a swamp and it too runs under the main highway.

The Genoa general store sits at the base of a hill. On the north is the Genoa River, while to the east of the store is the T-intersection of the Princes Highway and the Mallacoota Road. Parallel to the first part of this road and on the immediately adjacent floodplain are two large dams in open grazing country, between this road and the river. The dams are joined by a series of soaks and swamps, which in turn join them to numerous other dams and water bodies on the floodplain which is elevated above the riverbed and thus would only very rarely be covered by river water. The road towards the Gypsy Point Hotel traverses a mix of wooded and farming country, but adjacent to the hotel at Gypsy Point is another dam.

Now just so you know what we did and didn't do, all we did was drive in the car along these various roads. Everything found from this point in the night was physically sitting on the roads. And here's what we found:

- About 40 Peron's Treefrogs (*Litoria peroni*).
- 3 Haswell's froglets (*Crinia haswelli*).
- 12 green and golden bell frogs (*Litoria aurea*). Most were found in the area where the swamp ran under the Princes Highway, near the Genoa Falls, and more significantly adjacent to the two dams and adjoining swamps at the Genoa end of the Gypsy Point road. One large female was found in high sandy forested habitat along the Jones Creek Road, while two were found near the Gypsy Point Hotel.
- 1 large adult Lesueur's treefrog (*Litoria lesueuri*).
- 2 striped marsh frogs (*Limnodynastes peroni*).
- 2 adult Blue Mountains treefrogs (*Litoria citropa*), found in a single flat area of relatively distinctive *Melaleuca* and swamp stringybark trees (*Eucalyptus* sp.) with a sandy soil substrate.
- 2 juvenile Blue Mountains treefrogs (*Litoria citropa*), found sitting in pools along the dirt road track in the same area as the adults above.

- 20 pobblebonks / banjo frogs (*Limnodynastes dumerilii insularis*).
- 1 brown treefrog (*Litoria ewingii*).

Twenty-one of these frogs were DOR (Dead on road) in the general vicinity of the Gypsy Point Hotel, having been killed by departing pub patrons.

But this night also more-or-less gave me another herping "first." Save for some green and golden bell frogs I found back in the early 1970s crossing a street near Wyong Creek, in suburban Wyong in New South Wales, I'd never before seen this species crossing roads at night.

Upon arrival back at Logan's place at 2 A.M., the rain became heavy and it remained so for the rest of the night. By the end of the four days, Genoa had recorded an official total of 450 mm (18 inches of rain), the highest total for the state that week. The next morning, the Genoa River was a raging torrent and those rocks we'd been looking under for frogs the previous day were now under 5 or more meters of turbulent brown muddy water!

Excited by the large number of supposedly endangered green and golden bell frogs we'd found, Rob jumped on the phone to Gerry Marantelli. For those who don't know, Gerry's probably Victoria's best-known frog expert. He also runs the not-for-profit "Amphibian Research Centre" (ARC), which keeps and breeds dozens of species of frogs, including rare and endangered varieties. If you have anything to say about frogs in Victoria, the general rule of thumb is to tell Gerry!

It turned out that Gerry had been in the Latrobe Valley frogging. This was an area we'd driven past a couple of hours out of Melbourne on the way to Gippsland. Anyway, Rob told Gerry about all the *aurea* we'd found. Gerry replied unenthused. "I know they're common there. It's in my book!" We grabbed off Logan's shelf his copy of Marantelli's book about Victorian frogs (Hero et al., 1991) and sure enough it was in there. East Gippsland which is the area we were in, just happened to be the last great stronghold for the species.

And so our own personal discovery, wasn't really one at all. But that's not the whole story. You see, in some ways, it doesn't really matter what's in the books. The best way to learn about reptiles and frogs is to go out and experience it yourself and that's why field herping is so useful. You may forget what you read in a book, but believe me, you are far less likely to foget something you've actually seen and experienced yourself! And there's no law (yet) against rediscovering something someone else already knows.

Another Day of Reptiles and Frogs

The passing of the front the previous day wasn't the end of the bad weather. Sometimes as the front passes over the east coast, there is a bit of a vacuum in terms of the air mass that follows. If the next high pressure cell moving across continental Australia is a bit further back than usual, the intervening low pressure area may intensify over the adjacent ocean, just as a cyclone does in the tropics. For the nearby coastal areas this means cloud and rain and that's exactly what happened here in Genoa over the next few days.

This meant the next day was cool and generally cloudy with quite a bit of rain. That kept us indoors all morning. But like all keen herpers we couldn't be permanently deterred by a bit of water. As it happens, if you can stomach ending up drenched, rainy weather isn't all bad for finding critters. Sure not much moves about when it's cold and wet, but you know you can find animals under cover!

Our first spot was a seepage and small permanent dam just beyond two large dams on the road out of Logan's property. The habitat itself was swampy with lots of surface water, seepages and soaks, and with loads of tussock grass and ground cover with scattered trees. The trees were a type of blue gum (*Eucalyptus* sp.). Most of the hard ground cover was in the form of logs.

Under cover and in the space of thirty minutes we turned up the following:

- 2 Martin's toadlets (*Uperoleia martini*), both under a sheet of tin partially submerged in a shallow roadside ditch.
- 1 subadult she-oak skink (*Cyclodomorphus michaeli*), missing the end of its tail.
- 10 garden skinks (*Lampropholis delicata*).
- 2 Peron's treefrogs (*Litoria peroni*).

Besides these we found another green and golden bell frog resting out on a branch overhanging water in a small dam.

The second spot we looked for creatures was a cleared paddock about 16 km from the Princes Highway along the Jones Creek Road. Called "Tasker's Block" the area was bounded by woodland and had a medium-sized dam in a gully abutting the wooded area. Here we found ten garden skinks (*Lampropholis delicata*) sheltering beneath water-soaked timber and a single banjo frog (*Limnodynastes dumerilii*) under a log next to the dam.

And in the middle of the drizzle we saw a 1.5-meter female red-bellied black snake (*Pseudechis porphyriacus*) sitting in the open next to a pile of logs by the dam's edge. These are probably the most commonly seen snake around Genoa and so our find was totally expected. Put it this way, none of us got terribly excited by this find. They say that familiarity breeds contempt and yes it's true.

Red-bellied black snakes and I have been crossing paths since I was a youth. I kept some in my younger days and when I think back, can say they were a dream captive for me at least; they gave me no problems. Because they've been a snake I've more-or-less had continual contact with for most of my life, I've simply tended to ignore their sheer beauty. Around Sydney, my original hometown, if you find an area with sheets of tin and it's near water, you're bound to find red-bellied blacks!

I mention this, only in that when I went to the United States in 1993, numerous American herpers told me of how they'd like to keep some of this species or even more to actually see or capture one of these snakes in the wild. They were all besotted by their jet-black dorsum set-off by the bright red

ventral surface. What more can I say?

The Corpse

But the most important find made at this dam was the following: In the water of the dam we saw a dead Peron's tree-frog. Now how often does a herper see a dead frog sitting in water? We knew here that something was seriously wrong. Later inquiries revealed that the owner of the property had placed poison baits around the property and some of this had seeped into the dam water. The frog was an unintended casualty of a fox and rabbit killing program.

Our next hunting spot for the day was an elevated rocky outcrop in open forest country. Intensive searching for an hour yielded just one reptile. This was an adult female jacky lizard (*Amphibolurus muricatus*) sitting in the open in the drizzle. The lizard appeared to be sick and lethargic. Was the lizard sick from sitting in the drizzle or was it sitting in the drizzle because it was sick? Who knows?

The God Squad

There was a strange bunch of bible worshipers living on the next property downstream from the Logans. Genoa locals thought these people were strange because of their God-fearing practices and love for reproducing. The husband and wife didn't believe in television or contraception and hence had a multitude of kids co-habiting their house. They thought Logan and his friends were strange because of their reptile-liking "religion." They called us "The Heathens."

In spite of the continuing rain, they all emerged from their house to greet us. Although we were "Heathens," we were welcomed to their property as it was our job to rid them of their "evil" snakes and other reptiles. (Note: I've never yet met an evil snake who robs, bashes or commits perjury in a court of law.)

The property was probably designed by God himself. On one side was the river and on three others forest. Then in the middle of the cleared paddock was the house itself. Where God may have taken a hand in the design of the place was in the masses of sheets of tin and other rubbish to be found lying all around the paddock.

We found a "lucky" subadult she-oak skink (*Cyclodomorphus michaeli*) with a regenerated tail. I say "lucky" because some of the "God Squad" watched with horror as I picked up the lizard. You see they called them "false snakes" and killed them on sight. These people had a strange belief that lizards turn into snakes as a matter of course and that the she-oak skinks were some intermediate phase.

Under other rubbish around the property we found the following:

- 10 garden skinks (*Lampropholis delicata*).
- 1 southern toadlet (*Pseudophryne dendyi*) found beneath a burnt log and nowhere near any surface water.
- 1 toadlet (*Uperoleia martini*) under the same burnt log as the southern toadlet.
- 1 Peron's treefrog (*Litoria peroni*).
- 4 Lesueur's frogs (*Litoria lesueuri*) (small specimens).

It seems that maybe the "God Squad" had killed all the snakes around their house long before we arrived.

A Sunnier Day

The following day (6 November 1995) the weather remained generally wet, but at a few stages it became fine and at one stage the sun came out and the air temperature hit 23°C. Over several hours we searched numerous areas of forested habitat between Logan's house and the main highway along the dirt road.

We managed to find the following:

- An adult lace monitor (*Varanus varius*) ran across the road and into a tree. Within a few more seconds, it'd sought refuge in an upper tree hollow. On this trip, this was the only one seen. However this was due to the relatively cool and wet weather. In warmer sunnier conditions these monitors (known locally as "goannas") are extremely common and frequently seen. They usually are seen on the ground and then take to the nearest tree. Gippsland specimens tend to be among the bulkiest in Australia. They also tend to be very dark in color. The broad-banded phase from inland areas doesn't occur in East Gippsland.
- A large, nearly 2-meter adult male red-bellied black snake was seen in the open, basking on the edge of a track.
- The *Litoria aurea* seen basking on a fallen log over a dam the previous day, was again resting in the same spot.
- 1 *Pseudophryne dendyi*.
- 1 *Amphibolurus muricatus*.
- 3 black rock skinks (*Egernia saxatilis*), two juveniles, one adult, none of which were found around rocks!
- 50 *Lampropholis delicata*.
- 20 grass skinks (*Lampropholis guichenoti*).
- 20 weasel skinks (*Saproscincus mustelina*).

Another Night Drive

Just so you know that what we found the night we arrived at Logan's property wasn't out of the ordinary, I'll recall for you the species found on our next night hunt. While it'd rained more-or-less continually the second night at Genoa, we didn't bother to take a drive looking for frogs. Instead we'd done what herpers love to do a lot of. That's to sit back and talk about herps!

Logan told us how he thought it strange that his preoccupation was breeding reptiles while the "God Squad" next door were into breeding humans!

However the third night at Logan's property was to be our last and because everywhere was still wet we decided to have just one more drive in search of frogs. Rob wanted to try and find a giant burrowing frog (*Heleioporus australiacus*). The species is known from northeast Victoria, but not Genoa. Logan's initial thoughts that the species was found near his home receded into the general assumption that they'd merely misdiagnosed a large banjo frog (*Limnodynastes dumerilii*).

This time however the weather didn't quite work in our

favor and the net result was a lot less frogs. That afternoon there'd been a large thunderstorm in the area of Logan's house, but it did not hit the nearby areas that ran onto the main Princes Highway, with the main part of the storm passing across the western side of Logan's property. The storm had also had hailstones and this had contributed to a temperature drop at the time although all areas seemed to have had the same fall by the time the night drive was done.

We headed off at about 10.30 P.M. and upon leaving the house had to face a near full moon overhead in a nearly clear sky. And yes, frogs are a bit like the snakes. When the moon comes out, they go in and out come the owls and other birds of prey.

The other issue was temperature. At the start of the drive, the temperature was 16°C, which was more-or-less comparable to the previous night's temperature, but by the end of the drive and associated expeditions around some watercourses a few hours later, the temperature had dropped down to just 12°C. Now 2 degrees may not mean much to warm-blooded creatures such as ourselves, but for critters like frogs it can mean the difference to moving about without a care in the world and perhaps thinking twice about whether or not it was worthwhile to move about at all.

So in short, the three factors were working against frogs moving cross-country; namely the moon being exposed, the lack of rain and the low temperature.

Besides driving the road to the area of the Genoa General store and back, we also decided to do a search of some dams and swamps, where we found frogs still happily active in search of mates.

Now in spite of these generally poorer conditions we still found a respectable number of frogs and species. The seven species were:

- 10 *Limnodynastes dumerilii,* 8 on road, 2 in a dam.
- 2 *Litoria citropa*, 1 adult, 1 half-grown.
- 1 *Litoria aurea* on the Princes Highway north of Genoa Falls exit (3 *L. aurea* were found in this immediate area on the night drive two nights earlier and the area is characterized by roadside ditches and a large linear swamp that runs across the road).
- 2 Verreaux's treefrogs *Litoria verreauxii* (male and female, both in a dam).
- 1 *Litoria verreauxii* (female) on road.
- 30 *Litoria peroni* (20 in swamps/dams, 10 on roads).
- 20 *Litoria lesueuri* all on roads and mainly smaller ones.
- 1 toadlet or *Ranidella* frog seen hopping on road that wasn't identified as it hopped away and wasn't caught.
- 10 Haswell's frogs, all in one particular dam.

The End of the Frogs

On the morning of our return to Melbourne it was overcast, but the sun was shining. We drove down the dirt road from Logan's property to the main Princes Highway. The temperature was about 18°C and rising. Two kilometers down the track we saw an adult jacky dragon (*Amphibolurus muricatus*) basking on a fallen log at the side of the road.

Shortly thereafter it started to drizzle and, before we got to the main highway, crossing the road in front of us was a 1.4-meter (total length) red-bellied black snake (*Pseudechis porphyriacus*). It turned on itself and fled into thick vegetation in a low-lying area adjacent to a cleared forest. The weather continued to deteriorate and the return to Melbourne was characterized by cold winds and driving rain. Much of the Princes Highway on the way to Melbourne ran across low-lying floodplains, many of which appeared to be under water and in flood. Shortly after we returned to Melbourne we heard on the radio that the road had been cut due to rising flood-waters.

More from Genoa and Environs

Both I and Rob Valentic have been back to the area since and besides catching yet more frogs, we've also seen a few other species in the area. I'll therefore give you some further notes and comments derived from my observations in the area.

Green and Golden Bell Frog (*Litoria aurea*)

These frogs declined sharply in the last two decades of the 20th century from all areas except for the East Gippsland region centered on Genoa and nearby areas. As a result I'll detail my relevant findings here. They seem to be most common in areas such as disturbed grazing country and associated dams. Preferred dams have dense vegetation at the edges, even if this consists only of grasses. The area adjacent to Gypsy Point Road, where these frogs were most common was cleared grazing country (with few trees), and a large number of grazing dairy cows. The fact that the dams and adjacent swamps were full of cow droppings seemed of no consequence to the *L. aurea* and may in fact be a preferred habitat. This area was a heavily grazed, undulating floodplain of the Genoa River. Similar floodplains (with swamps and permanent dams) south-west of Genoa along the main Princes Highway towards Orbost also had huge numbers of *L. aurea.*

Similar, highly disturbed habitat has been noted as preferred habitat in areas south of Genoa, where a comparison of numbers of frogs between areas was made. On 18 January 1996, by day, I checked a number of swamps, creeks and other habitats for *L. aurea* between Genoa and Orbost (to the south-west) and noticed a consistent preference for heavily grazed river flat swamps, which were among the most disturbed of habitats. These areas while heavily grazed, retained a huge amount of riparian vegetation, rushes and other potential cover on the periphery of dams and swamps. As a rule, *L. aurea* did not occur around creeks and other fast flowing bodies of water or more pristine habitats. However specific pristine swamps inhabited by the species (because we have caught them there at night) were investigated and few were seen, but this was probably due in part to the difficulty in locating frogs because of the extremely dense vegetation. They are sometimes only detected by the sound of them splashing into the water while disturbed basking on emergent vegetation or logs.

The tolerance and/or preference of *Litoria aurea* for disturbed and sometimes degraded habitat has been noted by a

number of authors including; Greer and Byrne (1995), White (1995b), Wright (1996) and is not contradicted by our own observations.

Numbers and size classes of *Litoria aurea* seen in the Genoa area undergo a strong seasonal shift in terms of both numbers physically present and those physically observed. In late Spring (October/November) adult frogs breed and spawn. In wet weather they migrate between water bodies and are routinely seen crossing roads at this time on wet, raining nights. Both sexes appear to wander widely in wet weather as indicated by what we caught crossing roads.

Tadpoles in 1995-1996 seemed to take about 8– 10 weeks to mature, based on observations of spawning by Logan and then myself in October/November 1995 and metamorphosing tadpoles observed by me in late 1995 and early 1996. Over 90% of tadpoles seemed to mature within a three-week period at the end of December and early January in 1996. Young frogs were seen in December 1995 and January 1996 immediately adjacent to known spawning sites amongst vegetation. These frogs were diurnally active, appearing to be constantly moving. Even when the observer (myself) was standing still, the young frogs seemed to be constantly moving. The weather at the time was overcast with some rain and an air temperature averaging about 20°C.

On 27 December 1995, I noted large numbers of pre-metamorphosing *L. aurea* tadpoles in the swamps and dams near the Gypsy Point Road as well as other known breeding sites. Most of these tadpoles were fully mature and many had hind legs. About 10-20% were metamorphosed in that they had front and back legs and/or were even further developed, with an estimated 1% of the total number visible seen as small frogs in or adjacent to water.

Three weeks later, there were virtually no tadpoles to be seen in any swamps (although a small number could be found with intensive searching, with a net). The species of tadpoles was mainly *L. aurea* although about one in ten were of *Litoria peronii*. No doubt the species composition would vary from locality to locality and perhaps with the seasons. (A tannin-stained dam on heavily wooded elevated ground some 20 km southwest of Genoa yielded large numbers of large *Limnodynastes dumerilii* tadpoles on 27 December 1995. They were the only species in that dam and most were in the early stages of metamorphosis).

In late January 1996, the small frogs (*L. aurea*) seen adjacent to the swamps and dams were an estimated average of three times the weight they had been at time of metamorphosing. This was regarded by myself as a phenomenal growth rate, but not surprising when one considered the huge number of small insects in the area, which presumably formed the diet of these froglets. The biomass of all this potential food in this area was simply huge.

During the 27 December 1996 visit, I estimated the number of tadpoles in the dams near Gypsy Point Road to be somewhere between 1 and 4 million per hectare. This figure could be multiplied substantially if other swamps and dams in the Genoa River valley and similar floodplains nearby were included, noting that this estimate was based on just three dams, linked by a small stream on the floodplain (within a few hundred meters of one another). Other dams linked by the same stream were noted for some kilometers along the river valley. These numbers are even more significant when it is realized that *L. aurea* is widely regarded by New South Wales authorities and some scientists as "endangered" in that state.

The 1– 4 million tadpole number may seem huge at first glance, but is if anything a conservative estimate. Pergolotti (1995) gave an estimate of 2,486 mature eggs from a single mature female of this species from Homebush Bay (Sydney). This means that to get to a one million figure, less than 1,000 adult frogs (of both sexes) would be needed to breed in the swamp assuming a 50-50 sex ratio. Judging by numbers seen in the vicinity of the swamp at peak times, the 1,000 frog number is very realistic, noting that the species dominates other sympatric frog species in numbers and visibility in the area in the period November/January.

Pergolotti (1995) and Daly (1995) talked about a huge potential mortality of this species on roads near breeding grounds, based on the killing of gravid females. Judging by the number seen or killed on the Gypsy Point Road and Princes Highway, the potential losses of tadpoles may be in the hundreds of thousands, if not millions (in the Genoa area only, other areas are not included!). In spite of this mortality, there is no discernible effect on frog populations, which remain substantial.

It is thought by creation of artificial (man-made) dams and similar structures along otherwise narrow streams and swamps, that the frog population around Genoa has risen sharply since European settlement. Introduced fish such as the gambusia (*Gambusa affinis*) appear to be absent from dams in the area. The aquatic habitats in the area were noted to have had a huge amount of biological productivity. This was no doubt due in part to the high fertility of the alluvial silt-based soil, combined with artificial fertilizers and cow dung. Insects and aquatic larvae of many forms were in huge number.

Immediately following metamorphosis, young *L. aurea* appeared to be by far most numerous in small vegetated drainage ditches running from the main dams in clear paddocks. Three weeks later (on 18 January 1996), young *L. aurea* seemed less numerous and to have shifted further from their spawning sites, but were still in moist areas. Most were seen in damp vegetated depressions resulting from cattle trampling in damp situations adjacent to the dams. Other damside areas, such as dam borders and grassy slopes nearby had far fewer frogs, though small numbers were present. Potential predators of young *L. aurea* are many. However perhaps the most significant are wading and aquatic birds such as cormorants (*Phalacrocorax* spp.), egrets (*Egretta* spp.) and herons (*Ardea* spp.) (Lindsey, 1992). I observed large flocks of water birds feeding in and around swamps and dams near Gypsy Point Road. It is presumed that young *L. aurea* would be taken in large numbers. By counting young frogs and tadpoles individually and adding totals, the visible number present just three weeks later was an estimated 5% of the original number. While it is fair to assume that some of these missing frogs may have been hidden from view, I formed the view that oppor-

tunistic predators had caused most of the decline in numbers.

While talking predators, Logan observed a dragonfly nymph consuming a metamorphosing *L. aurea* tadpole in the large dam on his property. Rawlinson (1971) stated tadpoles "are subject to heavy predation, particularly by carnivorous aquatic insects (water beetle adults and larvae, water scorpions, damselfly larvae and dragonfly larvae)." I observed numbers of these and small eels in the dams near Gypsy Point Road. On several occasions, Logan has observed adult red-bellied black snakes preying on frogs in murky water. The snakes would completely submerge into muddy potholes, emerging only when they had grasped a frog in their mouth, which tended to be at regular intervals. From observation, the snakes seemed to have little trouble locating the frogs in the coffee-colored water, at a depth of about 600 mm (2 ft). Some snakes also fed on the frogs underwater. The species of frog being eaten were *Limnodynastes peronii*. However back in the good old days of the early 1970s I fed captive red-bellied black snakes *L. aurea*, and the species is well known as an opportunistic feeder.

I also found an adult red-bellied black snake submerged in clear water in an old well at Mount Kurringai (NSW). The snake must have either taken refuge there to hide from a potential threat (such as myself and my friends approaching) or already been there in search of aquatic food. Long-necked tortoises (*Chelodina longicollis*) have been found in the area by Logan. Captives held by myself for many years were routinely fed frogs. Rawlinson (1971) noted that fish and turtles are probably important predators of frogs in larger more permanent bodies of water.

On 27 December 1995, 13 adult *L. aurea* of both sexes were seen diurnally active in overcast weather adjacent to swamps near the Gypsy Point Road. These frogs were seen within a few hours of searching. This activity incorporated perching on vegetation adjacent to swamp or dams in overcast weather. However these frogs also were noted to move around due to the fact that an area visited at one time of day would have different frogs present at the same spots an hour or two later in the day, while others had moved away.

It was also noted that the relative condition of most adult frogs found in late December was markedly poor in spite of an apparent overabundance of potential food. The frogs were emaciated in general appearance and gave the impression of slow starvation. Otherwise the frogs were healthy with no outward signs of disease. These frogs may have represented part of a natural seasonal mortality of adults. However captives of this and related species have been known to live for several years (Neil Simpson, pers. com. *for L. aurea*; Grant Turner, pers. com. for *L. raniformis*), so any adult mortality of frogs would not (in theory) affect the entire population. This assertion is further corroborated by the field work of Michael Murphy at Nowra, New South Wales (Murphy, 1995), who observed individual adult *L. aurea* over more than one year, while also noting the apparent "disappearance" of others, either through mortality or evading capture.

On 18 January 1996, my inspection of the same sites failed to yield any adult frogs. On Easter (April) 1996, Rob Valentic visited Logan's property. No *L. aurea* were seen, although they were looked for.

Based on the above observations I presume that *L. aurea* born in one season may be able to reproduce in the next. Further investigation of this possibility is required. It may also be that many or most adults may for some unknown reason, fail to live beyond one breeding season and/or die after breeding. In terms of finding sheltering adult *L. aurea*, this has posed problems for many people. Richard Wells (pers. com.) stated he has found *L. aurea* hiding over winter under roots of vegetation bordering swamps, some distance below ground. He has also found them in similar situations in times of drought. White (1995b) noted that in midwinter at a Roseberry (Sydney, NSW) site, *L. aurea* can be found "up to a metre below ground level, lying inactive in a tight-fitting, moist soil chamber." Other relevant studies are White (1993a, 1993b, 1995a).

As noted earlier, in the early 1970s in the late autumn/early winter I found an adult pair of *L. aurea* under a well-embedded rock next to a farm dam adjacent to McCarr's creek at Ingleside (near Terry Hills), New South Wales. They appeared to be hibernating. Rob Valentic and others have found numerous adult *L. raniformis* hibernating under large basalt boulders along creek margins near Melbourne, Victoria (usually on the western side of the city).

In the 1970s I found numbers of *L. aurea* around swamps in the Wyong/Wyee area about 100 km north of Sydney. In Easter 1987, I did a search of these same areas during a dry season and found no *L. aurea.* Based on observations detailed above for the Genoa area, this apparent absence of frogs in the Wyong/Wyee area may not have been true in that the frogs were still in the area . . . they just weren't found! Also notable is that the best site found for *L. aurea* near Wyee (in terms of numbers) was a disused piggery foundation that had filled with water. The concrete structure was bordered with grasses and still filled with pig droppings, which permeated through the water.

At Genoa at several sites, including on Logan's property and near Gypsy Point Road, a number of *L. aurea* were found patterned with randomly distributed dorsal white spots. From our own observations, this appears to be a relatively unusual marking on the species. I noted the highest concentration of these specimens was adjacent to a permanent dam just north of the Gypsy Point Road, (3rd dam east of Genoa).

Richard Wells believes that wading birds may act as a dispersal mechanism for *L. aurea*. He speculates that feeding birds may have eggs adhere to their feet, which are then transported to other watercourses before hatching. He suggests this may be one reason why these frogs may appear to be absent from an area for some years and then suddenly seem to reappear. This may include some inner Sydney swamps which in the late 1990s were found to have populations of the species. Humans are perhaps the best dispersal mechanism for the species. *Litoria aurea* was released into New Zealand in 1867-68 and is now common there (Tyler, 1979). Tyler (1979) also notes more recent introductions to New Caledonia and the New Hebrides, with the species being common in suitable localities

in these places.

Murphy (1995) and other authors have noted widely varying populations of this species from year to year. Our own observations and those of other authors indicate that this variation may in part be due to climactic conditions as well as other (as yet unknown) factors. The large number of frogs observed by us in 1995– 6 (and Logan in 1995– 7) may be partly due to the favorable weather conditions in the period. However Logan noted breeding frogs around dams in dry weather preceding our 1995 visit. This observation also corroborates my observations in the 1970s in this species and other treefrogs such as *Litoria phyllocroa, L. fallax* and *L. verreauxii,* which bred in dry weather by permanent water. Rob Valentic and I have both seen *L. lesueuri* breeding in drought conditions along spring-fed subalpine streams. I have also seen this for *L. raniformis* and *L. alpina*. Clearly female frogs develop eggs some time prior to anticipated breeding and in the absence of rain at the approximate breeding time, will breed regardless.

Clinton Logan has noted that *L. aurea* are most mobile in wet weather. Known specimens at dams on his property have been seen resting in a particular position/s during dry weather, but seem to disappear in wet weather. In line with what was observed by us in November 1995, it is clear that any major overland movements by these frogs only occurs in wet weather and most typically at night. Hoser (2000) gave a more detailed account of this species around Genoa and other parts of New South Wales, including a detailed assessment of their ongoing conservation (or lack of it) in NSW in terms of the actions of the local wildlife bureaucracy.

White-lipped Snake (*Drysdalia coronoides*)

On 18 January 1996, I was gathering rocks from a road cutting at the side of the road, a few hundred meters south of Genoa along the Princes Highway. Under a small piece of pink and blue (Devonian) granite, the size of a cigarette packet was found a sheltering white-lipped snake (*Drysdalia coronoides*). The snake was a gravid female. (It had ten young).

Logan reports seeing these snakes throughout the area, being most commonly found under tin. So what's new? The species is usually diurnal in habit. It was dusk when I found the specimen under the rock.

Red-bellied Black Snake (*Pseudechis porphyriacus*)

As already mentioned, this appears to be by far the most common snake in the area. Logan is of the view that these snakes prey on blue-tongued skinks (*Tiliqua scincoides*), which perhaps as a consequence are relatively rare in the area. I did at one time feed *T. scincoides* to adult lace monitors (*Varanus varius*). These lizards are also very common in the area. Logan noted that red-bellied black snakes are commonly seen active in drizzle. I have observed the same in copperheads (*Austrelaps ramsayi*) around Oberon and Lithgow, New South Wales. This activity pattern may reflect the desire to locate prey in the form of frogs.

She-Oak Skink (*Cyclodomorphus michaeli)*

We have found these lizards in the Genoa area in cleared areas under cover such as tin and fallen logs. I've caught the species in similar situations in New South Wales in the upper Blue Mountains areas of Wentworth Falls, Leura and Katoomba. The type specimen for the species comes from Mount Victoria in the upper Blue Mountains of New South Wales. In both Genoa and the Blue Mountains areas, the species appears to adapt well to disturbed habitat and readily shelters under man-made cover such as tin. Shea (1995) recorded the species from heavily built-up inner Sydney suburbs south of Sydney Harbour, but I've never seen them there. Gillespie (1992) alleges that the species may be under threat by timber harvesting practices in the area. We believe that such activities probably present minimal threat to the species in the medium to long term and that if anything, populations of this species may actually increase as a result of habitat alteration through timber harvesting. That is not to say that I necessarily endorse timber harvesting per se as other (unidentified here) wildlife types may suffer.

I regard she-oak skinks as one of the most underestimated reptile species in terms of their suitability as a pet. As a youth I kept captive a number of Blue Mountains specimens and certainly had no regrets. My advice to people looking for an interesting lizard to keep as a pet is to go out and get some she-oak skinks (if you can).

Genoa Update 2003

Gerry Marantelli the best known frog expert of Melbourne and manager of the local "Amphibian Research Centre (ARC)" in 2003 gave me an update on the Genoa scene. The dreaded chytrid fungus has moved in and frog numbers in the area have crashed. The fun and games that I, Logan and others enjoyed until the mid-1990s may never be repeated again.

For those unaware, the chytrid fungus has now been blamed for most of the major declines in cool and temperate climate frogs that have been observed across the world. The fungus is thought to have been originally transported from cooler parts of Africa to the northern hemisphere and then elsewhere, from where it has escaped into the wild and precipitated declines of frogs. The fungus attacks keratin metabolism in vital organs in frogs (not tadpoles) and kills most affected frogs from areas where the fungus is not native. The fungus does not appear to survive well in warm places and hence warm climate species do not appear to have declined in the same manner as the others.

To be continued

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Program Notes from the May CHS Meeting

by John Archer

Think of herpers you would beg to chat with about Florida herps for an hour or two . . . or longer. Dick Bartlett? Bill Love? Chris Lechowicz? At May's CHS get-together I had the pleasure of meeting and talking with Dr. Billy Griswold, our guest speaker for that month, and after listening to his presentation, I've added him to my short list of prime candidates. Dr. Griswold has a conversational style which, coupled with his extensive knowledge and great photographs makes his show attractive, attention-holding and educational. Those are not his only talents, for he's also an emergency care vet living in Arizona with his veterinarian wife, a dog, three cats and assorted reptiles.

So what's an Arizona vet doing lecturing us on Florida herps? For nearly twenty years he lived and herped in Florida, during that time acquiring a knowledge of Florida and its animals, which allows him to effortlessly work his way through his photographs, giving backgrounds and facts about the reptiles and amphibians pictured that would rival any good field guide, at the same time throwing in personal anecdotes that had me wanting to head off to Florida that night. Dr. Griswold declined to accompany me.

Dr. Griswold started out in Massachusetts, where his father shared his interest in wildlife with his two sons. As kids, Billy and his brother kept a variety of animals, and in 1981 the family moved to Florida where Billy became even more involved with herps. One of his first Florida herps was a huge Florida softshell (*Apalone ferox*) that he spied from his school bus window. When he got home, he quickly grabbed his bike and a box and rode to capture "the weirdest damn thing I'd ever seen." During his time in Florida, he and his father began breeding cornsnakes. At one point they had over two hundred snakes! He attended college and vet school at the University of Florida in Gainesville, where he met his wife. In 1995 they met and became close friends with Dick and Patti Bartlett, and obviously that relationship added to his herping experiences. Dr. Griswold loves the challenges associated with emergency care, but hopes to start his own practice as soon as his wife establishes hers.

Dr. Griswold was gracious enough to begin his talk by thanking the CHS for inviting him to speak, noting that in his early herping years his best and sometimes only sources of herp information were the CHS and NOAH. He started with an overview of Florida climate zones and topography. From a little south of Gainesville north, Florida is temperate, with deciduous forests, pine flatwoods, and bottomlands around river beds, a climate similar to southern Illinois. From south

of Tampa to Lake Okeechobee and Miami, it's generally classified as subtropical with more lizard species appearing, most of them introduced. The southern glades and keys are tropical, with mahogany and gumbo limbo trees growing. The whole state is humid and in most years has abundant rainfall. There are three primary topographical divisions in the state. Uplands, the highest but only a few hundred feet above sea level, are furthest inland and feature the dry oak forests or upland plains with saw palmetto and long-leaf pine. Ridges, relict dunes which were the only places remaining above sea level during the highest waters in Florida's geologic past, are sandy, scrubby plains of stunted turkey oak, prickly pear cactus and saw palmettos, which harbor many of Florida's interesting endemic plants and animals. Florida lowlands are both interior, consisting of inland lakes and swamps, and coastal, which include the salt marshes and estuaries so important to marine fishes and many reptiles.

That range of climate and topography allows Florida to have great diversity in plants and animals. There are over 700 species of land vertebrates, 40 of which are endemic; over 30,000 land invertebrates, about 400 of which are endemic; and over 4,000 flowering plants, including over 100 native orchids and 300 endemic plants. Florida has about 142 native species of herps, 53 of which are amphibians and 89 reptiles. But Florida also has about 52 non-native herps: four amphibians, including the Cuban treefrog (*Osteopilus septentrionalis*) and the marine toad (*Bufo marinus*); and the rest reptiles, over forty-three of which are lizards, thirty-five of which have been introduced and breeding in Florida for better than ten years, and around a dozen that seem to be expanding their ranges.

Dr. Griswold spoke about how he decided to limit his talk, and I found myself liking him more and more, because he eschewed the spectacular and well-known and selected the lesser-known and often overlooked. He talked only about native species, and concentrated on some endemic or at-risk animals or animals with limited ranges in Florida. He narrowed it down to four or five dozen species.

He opened with mole salamanders (Family Ambystomatidae), covering three we can also find in Illinois: the marbled salamander (*Ambystoma opacum*), the mole salamander (*A. talpoideum*), and the tiger salamander (*A. tigrinum*), which reaches its southernmost range near Gainesville and was something of a holy grail for local herpers. For us Illinoisans, it's hard to think of tiger salamanders as someone's holy grail, but after several years of searching, he and Dick Bartlett finally found a few on a very wet, rainy, winter night. His remaining salamanders were from the panhandle and Apalachicola River area, including duskys (*Desmognathus* spp.) and brook salamanders (*Eurycea* spp.) endemic to ravines and habitats where the microclimates resemble the Appalachians.

His anuran selection included the oak toad (*Bufo quercicus*). He told of how these little toads are a favorite food of the southern hognose (*Heterodon simus*)—even finicky eaters in captivity seem to relish them—and he related the difficulties he had with photographing these creatures in the wild because their extremely high-pitched peep would make his eyes water. It must be difficult to focus with blurry eyes! He shared great slides and facts of Fowler's (*Bufo fowleri*) and eastern narrowmouth (*Gastrophryne carolinesis*) toads, and Cope's gray (*Hyla chrysoscelis*), pine woods (*H. femoralis*), and barking (*H. gratiosa*) treefrogs, southern and Florida chorus frogs (*Pseudacris nigrita nigrita* and *Pseudacris n. verrucosus*), and the little grass frog (*Pseudacris ocularis*), "the little frog that nobody knows," found everywhere in Florida except the extreme south. Less than ½″ in total length, these frogs sound like crickets when they call. The carpenter frog (*Rana virgatipes*), is one of Dr. Griswold's favorite ranids, partly because, unlike bullfrogs (*R. catesbeiana*) and pig frogs (*Rana grylio*), he's not allergic to them! Their call is like a hammer hitting a board. The last of the frogs he talked about was the eastern spadefoot (*Scaphiopus holbrookii holbrookii*), which he submitted as the ugliest frog while calling. His photo of one of my favorite toads backed up his point.

He listed five subspecies of diamondback terrapins (*Malaclemys terrapin*) in different sections of the entire coast of Florida and mentioned the "striped pants" of the chicken turtle (*Deirochelys reticularia*), which ranges south to Lake Okeechobee. The Gulf Coast box turtle (*Terrapene carolina major*), while certainly not the prettiest box turtle, is interesting because in Florida it's only found in the panhandle and he's actually found it walking along the bottom of streams. Like most box turtles, they often bear scars from burns, but seem to manage quite well despite blackened scutes or exposed bone. The last turtle mentioned was the loggerhead musk (*Sternotherus minor minor*), which is also found in northern Florida in cold, spring-fed streams. Where found, they're relatively abundant.

He began lizards with the southern coal skink (*Eumeces anthracinus pluvialis*), which quickly dives into crawfish burrows or water when escaping pursuit. Pictures of two of the many subspecies of mole skinks (*Eumeces egregius egregius* and *Eumeces e. lividus*) which live everywhere in Florida were shown next. You can find them by sweeping the sandy soil with your fingers and catching them before they quickly burrow in. He showed photos of the broad-headed skink (*Eumeces laticeps*), the largest and meanest Florida skink, and the ground skink (*Scincella lateralis*), a common little skink whose eggs he fed to his captive scarlet snakes (*Cemophora coccinea*). The tiny skinks themselves were happily consumed by his scarlet kingsnakes (*Lampropeltis triangulum elapsoides*). The Florida reef gecko (*Sphaerodactylus notatus notatus*) and the ashy gecko (*Sphaerodactylus elegans elegans*) are two of his favorite geckos, but the latter is under pressure from predation by the introduced Amerafrican house gecko (*Hemidactylus mabouia*). Lastly, he had a photo of a little-known type of reptile in general, not just in Florida. The Florida worm lizard (*Rhineura floridana*), an amphisbaenian, is found in high sandy uplands, and is so fossorial they are normally seen only when someone digs one up while gardening.

Snakes began with the southern copperhead (*Agkistrodon contortrix contortrix*), which he said was not as pretty as the northern (*Agkistrodon c. mokasen*), but he showed a photo of a beautiful snake. He mentioned a population of anerythristic cornsnakes on the southwestern edge of Lake Okeechobee

which seem to be doing quite well, and the various subspecies of eastern ratsnakes (*Elaphe obsoleta* ssp.) found along the length of the state, from the gray oak rat (*Elaphe o. spiloides*) in northern Florida to the Everglades rat (*Elaphe o. rossalleni*) in the south. The southern hognose is small and not common, but found north of Lake Okeechobee in the sandy uplands. Unlike the eastern hognose (*Heterodon platirhinos*), this snake is usually easy to switch to feeding on mice in captivity. Our prairie kingsnake (*Lampropeltis calligaster calligaster*) is represented in Florida by the mole kingsnakes (*Lampropeltis calligaster rhombomaculata* and *Lampropeltis c. occipito-lineata*), but they are infrequently found. He showed some spectacular photos of the Apalachicola kingsnake (*Lampropeltis getula*), a patternless king still in taxonomic limbo. The Florida pinesnake (*Pituophis melanoleucus mugitus*) is one of his favorites. Shortly after moving to Florida, his dad found a big, hissing snake on the road while driving around. Because it didn't have a rattle, he picked it up and brought it home, where "Petey" lived in a 20-gallon aquarium under the TV, being fed the occasional mouse, until they released it several months later where it had been captured. Dr. Griswold likes the various coastal watersnakes (*Nerodia clarkii* ssp.) because although like all watersnakes they musk when picked up, nevertheless they tend not to bite as much as other *Nerodia*. The plainbelly watersnakes (*Nerodia erythrogaster* ssp.) are usually found in moving streams in the Panhandle. I think these are some of the prettiest watersnakes.

Dr. Griswold covered at least a dozen more snakes in his presentation, and covered many more animals throughout, all accompanied by interesting anecdotes and colorful photos, but I can't do his talk justice in print. The Chicago Herpetological Society was fortunate to have him visit. I think it says a lot that I've had trouble throughout this article referring to him as Dr. Griswold rather than Billy. His demeanor and conduct are such that, in spite of the fluency and erudition of his talk, he projects a humility which makes him just a nice guy to hang around. I avidly await his presentation on the lesser known, often overlooked herps of Arizona. I only hope he doesn't wait twenty years before bringing that presentation to the CHS.

Bull. Chicago Herp. Soc. 41(7):135-138, 2006

HerPET-POURRI
by Ellin Beltz

A Moment of Silence, Please

One of the oldest beings on earth, an 176-year-old tortoise reported to have been owned by Charles Darwin, passed away at Steve and Terri Irwin's Australia Zoo north of Brisbane. The oldest tortoise ever known, died in 1965 at the age of 188. [CNN, June 24, 2006, from Ms. G. E. Chow and *Arkansas Democrat-Gazette*, June 26, 2006, from Bill Burnett]

I've had days like that!

Two tortoises kept in captivity together for 55 years in England outlived their original owners and are now housed with a second family. One warm day, they put them outside as always, turned their back for a minute (turtle owners start snickering now) and the lady tortoise of the pair sauntered off and has been missing ever since. The gent is reportedly frantic, crawling the walls of their joint enclosure and trying to escape himself. The owners speculated she might have wanted a little privacy after 55 years, and expressed concern that they find her before harvesting machinery cuts loose in local fields. [England's *Daily Mail*, June 6, 2006, from Bill Burnett's mom, Hilda]

It's official

Coqui is one of the new words selected by Merriam-Webster for inclusion in this year's list of new words. The dictionary refers to coqui frogs as "small chiefly nocturnal arboreal frog (*Eleutherodactylus coqui*) native to Puerto Rico that has a high-pitched call and has been introduced into Hawaii and southern Florida." Herpetologists might point out that they introduced themselves into Hawaii, half a world away from where they belong in Puerto Rico. Nonetheless it was fun to see a herpetological word amidst the rest which include "manga," "soul patches," and "polyamory." At least I knew what they were, even if my spell-checker didn't!

Happy Birth Day to You!

Three tiny Egyptian tortoises, *Testudo kleinmanni*, hatched at England's Chester Zoo. Where they used to live freely in the wild is the "Mediterranean coastal deserts of Egypt, Eastern Libya and Israel's western Negev." When fully grown, the critically endangered tortoises will only be from three to five inches total shell length. [*USA Today*, May 24, 2006, from Bill Burnett]

The Wild, Wild South

• Public outcry over Florida regulatory policies that result in massive fees to the agency while living tortoises are buried by bulldozers has resulted in "moves to conserve the species . . . gaining support, even among developers," according to the Orlando, Florida *Sentinel*, May 22, 2006 [from Bill Burnett] The account continues, "Since 1992, the state's wildlife agency has allowed housing construction and other projects to entomb nearly 80,000 tunnel-dwelling tortoises rather than deal with the extra time and cost of moving them to a conservation tract." The payoff for the state was about $40 million and nearly 10,000 acres set aside as part of deals with developers. In a complete and utter further lack of any sort of logic, the bureaucratic rules also prevent folks living in prime tortoise habitat from keeping any—including a single one of the 80,000 buried alive—as pets. The article concludes ominously, "Fish and Wildlife Conservation authorities know that some developers will never agree to any tortoise rules. From time to time, the agency discovers bulldozed tracts and tortoises killed with-

out a permit."

• Meanwhile, heavy hurricane years have devastated the tiny patch of sand permitted to remain between the ever-rising surf line and millions of dollars of prime beachfront real estate. In the old days, communities just called in the dredgers and pumped sand off the ocean floor up into darling little designer dunes, low enough to see over from those expensive picture windows and ready to wash out on the next tide. Nowadays they have to file incidental take permits for sea turtles because dredging methods suck up shrimp, crabs and the turtles which feed on them. Across the dredge zone this year, the take number has been filled and local communities will have to wait until October to resume dredging. This has locals in a panic as the next hurricane season is due to start any minute and many towns including parts of South Padre Island, Texas, are awaiting their protective dunes. At no time in the article, did anyone on any side of the debate, advance the simple concept of attaching TEDs to dredge pipes just as they were attached to shrimp nets to divert large fish and turtles. [Leesburg, Florida *Daily Commercial*, June 26, 2006, from Bill Burnett's Mom (welcome back!)]

Let's hope it's enough, and on time

The North India News Service reports on the massive change in attitude towards amphibians—which column readers here have watched unfold before their very eyes over the past 20 years. "In view of the ban imposed by the Union government on catching, killing and export of frogs the chief wildlife warden in Goa has solicited the cooperation of the people in the effort to protect and conserve them. Frogs are protected under the Wildlife Protection Act, 1972. Catching, killing and selling frogs or serving frog meat in eating places contravenes the provisions of the act and attracts stringent punishment. Mythologically frogs are believed to be the incarnation of the Goddess Laxmi and are said to bring prosperity and herald the rains. Frogs mainly feed on insects and due to this feeding habit factors responsible for various diseases like malaria, filarial and encephalitis are brought under control. Frogs also control vectors of various other human and animal diseases. The consumption of frogs over a period of time could trigger paralytic strokes, cancers, kidney failures and other deformities. Monsoons are the mating, breeding, multiplying and feeding season for many species of frogs, and it is during this time they become victim of their greatest predator—man. Indiscriminate killing of frogs has been the cause of a drastic decline in their population. It is to be kept in mind that killing of frogs is an ecological crime against the food chain, affecting the ecological balance of terrestrial and aquatic ecosystems." [June 14, 2006, from Ms. G. E. Chow]

Karma is a Female Alligator

Under a headline "Jackass of the Week," the *South Florida City Link*, May 10, 2006, reports, "It's bad enough. . . . [I'll call him JOTW, instead of naming names] has paved over half the Florida alligators' habitat, but now, he has to go jumping on their backs as well. Last week as real estate tycoon JOTW drove a group of fellow millionaires around his private nature preserve . . . he spied a 7-foot alligator. Unlike most of us who would give such an animal a wide respectful berth, JOTW proceeded to wrestle the creature, as he had promised his guests he would if they encountered one. 'It's part of my Florida cracker culture,' JOTW . . . explained, adding that he often does this sort of thing." The newspaper claims some contradictory personal experience with this culture and adds that this time, tough-guy JOTW was injured. He was dragged into the water, rolled around, had his hand chomped, "before some of the other cash-chuckers . . . managed to separate the two. . . . [JOTW] was taken to the hospital. We hate to kick JOTW while he's down; we hear he throws the greatest Christmas party in all South Florida. But then again, we also hear he eats live frogs. All things considered, we hope the incident of the Painful Pinky teaches JOTW to let sleeping gators lie. To do otherwise is to invite jackassery." [A less editorialized version of the same story was printed in the *Orlando Sentinel*, May 4, 2006. Both clippings from Alan Rigerman, the second also from Bill Burnett]

Typical bureaucrat, sorry, bureau-dog

"Python Pete," the beagle trained to sniff out giant snakes in the Everglades has apparently decided on retirement at age 18 months. His handler reports that all of his latest drag and sniffs have been to big piles of brush, not the snakes he was so expensively trained to find. [*Miami NewTimes*, May 4– 10, 2006, from Alan Rigerman]

Academia to the rescue?

Biologists have radio tagged, released and recaught wild Florida pythons in an effort to understand how the giant reptiles use their adopted space. Figuring it takes a python to find a python, researchers tagged four snakes and studied them for 3 months of free-range slithering. Dubbed "Judas snakes," the pythons led researchers to more snakes which were rounded up and removed from the Everglades. Realizing that catching snakes already released is a quixotic pursuit, Florida legislators are urging a $100 per year big snake license in the hopes of cutting down on impulse purchases which later result in releases. Another agency is working on amnesty days where folks can turn in giant snakes instead of letting them go. The numbers of snakes seen and captured tell the story. Until 2000, there were only about a dozen reports of snakes in the Everglades. By 2005, the number known to be there was 236, with 94 counted in 2005 itself! The sudden escalation in numbers, the finding of juvenile snakes and other factors have led scientists to suggest the animals are breeding in the wild. Breeders and dealers acknowledge they've been behind the loop, still selling animals without really educating people about how big they get—and how fast they get that big. [*Miami Herald*, March 30, 2006, from Alan Rigerman]

To eat—or be eaten!

The *Everglades Reporter*, published by the Friends of the Everglades, Spring 2006 issue features a story by Ray "Skip" Snow and Lori Oberhofer, the two most likely to be on the front lines, with or without Pete the Pyth-non-sniffer, in the great python wars of the 21st century. They point out the diet list includes, "raccoon, rabbit, muskrat, squirrel, opossum, cotton rat, black rat, cat (kitten), house wren, pied-billed

grebe, white ibis and limpkin," while "sources of mortality include motor vehicles, mowing equipment, fire and alligators." They found hatchlings in both 2004 and 2005, although they may have been present before that and were unfound.

At last, a fitting adversary

"Until now, man's relentless development of Florida has been our ultimate weapon—we've been killing off docile gators, the furry black bears, the sleek Florida panther and harmless gopher tortoises in alarming numbers. The pythons, however, aren't likely to be such meek victims." Ramsey Campbell, Orlando, Florida *Sun-Sentinel* Columnist, June 12, 2006.

Not herps, but

- A millipede unseen by scientific humans in 80 years was rediscovered by two millipede hunters in central California. The reaction of science was predictable. A bunch were collected, positively identified, preserved (i.e., killed) and a few others were sent to another institution for a similar fate. [South Florida, *Sun-Sentinel*, June 8, 2006, from Alan Rigerman] Let's hope for a different outcome when someone finally catches an ivory-billed woodpecker!

- Manatees, those giant floating mammals considered a "poster species" for the environment, have been down-listed from endangered to threatened on Florida's state list of nonhuman species in peril. Their federal status has not, as yet changed, although some report it may shift downward as well. Even mainstream media report the downgrading is a result of a "campaign [by various growth interests] against a growing array of restrictions intended to protect the lumbering sea cows." The vote to down-list was 7-0. [*Miami Herald*, June 8, 2006, from Alan Rigerman]

Alligators, the good, the bad and the ugly

- Three women lost their lives to alligators in Florida in one week this year. First, "a 28-year-old South Florida woman was attacked and killed by an alligator near a canal," according to the *Orlando Sentinel* [May 15, 2006, from Bill Burnett] which continues, "friends pried the body of a [23-year-old] Tennessee woman from the jaws of an alligator in . . . Ocala National Forest . . . attacked Sunday afternoon while snorkeling." Three days later, "in Pinellas County, the dismembered body of a woman [later identified as a homeless 43-year-old] was found about three days after she died." Additional details were provided in a multitude of papers as all of Florida experienced alligator panic. The gators responsible, and several others, were rounded up, killed and autopsied to prove their complicity.

- Prior to these three deaths, there had been only 17 human fatalities due to alligators and 351 recorded attacks on people in the past 58 years. [Leesburg, Florida *Daily Commercial*, May 15, 2006, from Bill Burnett]

- "More than half the 351 documented attacks between 1948 and summer 2004 have occurred since 1993. During this same time, there have been only two attacks in Louisiana, the only state with as many gators as we have. So as you can see, this is a people problem," wrote *Sentinel* columnist Mike Thomas on May 16, 2006. [from Alan Rigerman]

- In 2004, the most recent year for which figures are available, 15,485 serious alligator complaints were filed and 7,300 alligators were killed. While the alligator population is stable at one million humans continue to move into prime alligator habitat and do things that make themselves or their pets look like food. Spring brings gators out of winter torpor—hungry, and people don't accommodate the two or three weeks of extra caution required. [*Orlando Sentinel*, May 15, 2006, from Bill Burnett]

- The state announced that plans had already been in the works to reduce the number of gators statewide by lengthening hunt season from six to 11 weeks. [*Daily Commercial*, May 16, 2006, from Bill Burnett]

- A 7-foot alligator chomped down on a diver's air tank while he was retrieving golf balls in an aptly named "water hazard" on a Florida golf course. He was rescued by a local resident who tried to get the gator off the diver's air tank with his knife and was bitten for his trouble. He was treated and released. The gator was killed and may be turned into a golf bag, according to *South Florida CityLink*, May 3, 2006, from Alan Rigerman.

- "Trappers contracted by the Florida Fish and Wildlife Conservation Commission will attempt to find and remove [nuisance alligators]. The definition of a nuisance alligator is broad, [a biologist] . . . said. 'In general, if they [the member of the public] feel it is a threat and it is behind their house, we will come get it.'" [*Miami Herald*, May 17, 2006, from Alan Rigerman]

- Veteran alligator trapper Todd Hardwick took a 9-foot 4-inch gator out of a canal in northwest Dade county after residents saw it resting its chin on the canal bank. Hardwick said it was unusual to get such a large one east of I-95 and said the 500-pound creature put up quite a fight. He also trapped a 400-pounder a few days before. Because it's so big and had nothing on its record, it will be relocated rather than killed. [*Miami Herald*, May 18 and 21, 2006, from Alan Rigerman]

- A man snorkeling alone was attacked and required 33 stitches on his head after being bitten from behind by a three- to four-foot-long alligator in a park visited by 500 to 600 people a day. A drought is pushing alligators into more permanent waters from now dried-up temporary waters. [*Orlando Sentinel*, June 9, 2006] The gator was captured a few days later [same paper, June 12, 2006, both from Bill Burnett]

- "Experts say it's more likely you will be struck by lightning than attacked by an alligator. . . . There's no reason to panic, but there are also some common-sense steps to take to avoid a potential nightmare. . . ." (1) Don't go near the water at night. (2) Don't take gator-morsel "Fido," "Buster" or "Barky" near the water at dusk or at night. (3) Don't let your puppies or small children romp in shallow water with or without an "alligator warning" sign anywhere in the state of Florida. (4) Do not swim or snorkel alone with or without a warning sign. (5) Don't dangle body parts above the water in such a way to

look like gator chow. (6) If watched by a gator when barbequing, don't eat the feast outdoors. (7) When walking along sidewalks or paths next to canals, watch out for large, log-shaped objects. There aren't that many big trees left in the South—anything big is more likely to be a gator. (8) Don't indulge your curiosity. Get out and away rather than jump in and experience nature for yourself. [*Miami Herald*, May 16, 2006, from Alan Rigerman]

Thanks to everyone who contributed this month! Stay tuned in August for the story of my trip to the Pacific Northwest Herpetological Society, as guests of long term contributors Marty Marcus and Ann Waldo. Consider contributing the next reptile or amphibian story you see in print, or online. Send print articles with date/publication slug and your name to me: Ellin Beltz, P.O. Box 1125, Ferndale, CA 95536 or ebeltz@ebeltz.net.

Next time you surf the WorldWide Web, crawl, run, slither, slide, jump, or hop over to the CHS web site!

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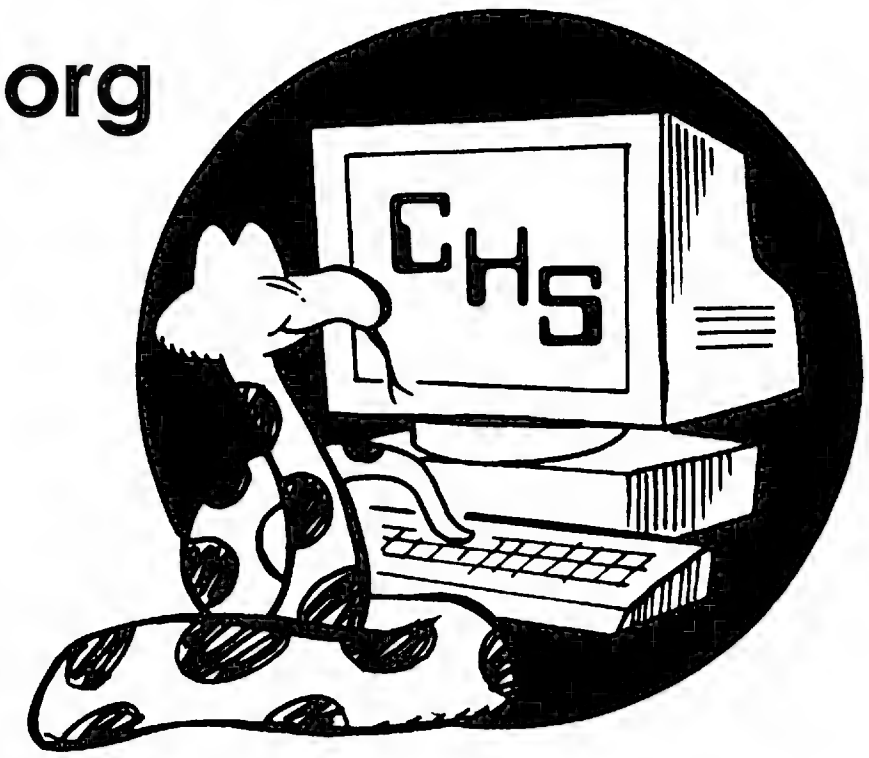

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Unofficial Minutes of the CHS Board Meeting, June 16, 2006

Linda Malawy called the meeting to order at 7:30 P.M. Board members Zorina Banas, Rich Crowley and Erik Williams were absent.

Officers' Reports

Recording Secretary: Zorina Banas was not present and the minutes of the May 19 meeting were not available to be read. Kira Geselowitz agreed to take the minutes of this meeting.

Treasurer: Andy Malawy distributed a review of balances, income and expenses for May, and a finalized ReptileFest statement. A discussion ensued comparing the financial results of the 2005 and 2006 ReptileFests. Both income and expenses increased in 2006; net income was almost identical. It was suggested that we might cut back on paid advertising next year, get put in as weekly events calendars instead. Marybeth Trilling suggested we look into Public Service Announcements. Linda suggested individuals taking the initiative when they have any idea for free advertising. Andy Malawy suggested raising the annnual CHS membership dues to counter rising costs. Mike Dloogatch was opposed to the idea stating that it will likely cause a loss in membership. Linda will research the membership fees for other societies to compare.

Membership Secretary: Membership decreased from last month to 565. Deb Krohn gave an overview of possible choices for a membership display she wants to have built for use at shows and meetings. Bob Bavirsha offered contacts to get the signage made. It was suggested that we might be able to get some materials donated.

Vice-president: Marty Crump will speak at the October meeting. Linda requested suggestions as to possible speakers.

Corresponding Secretary: We received a raffle donation of a $25 gift certificate good for rodents from Classic Dums; a special thank-you will be mentioned at the meeting.

Publications Secretary: Erik Williams was not present. Cindy Rampacek offered to take over the CHS Yahoo group.

Sergeant-at-arms: Attendance was 48 at the May meeting.

Committee Reports

Shows: There will be a show at the Cosley Zoo in Wheaton on June 17. Linda emphasized the need to inform our insurance agent in advance of the dates of all CHS shows so that we obtain the necessary certificates of insurance. Jason Hood suggested that children under 4 should not touch the animals at CHS shows, however the CHS has no such policy. Linda offered the possibility that presenters have a brief salmonella warning printout on their table. July 1– 2 is a Notebaert show. On July 19 the CHS will display at Members' Night at the Museum of Science and Industry (MSI). Thank-you to the following for helping out at the June 10 MSI show: Bob Bavirsha, John Archer, Linda Malawy, Steve Sullivan and Jenny Vollman.

ReptileFest: Tentative date April 14– 15, 2007.

Raffle: Thanks to Deb Krohn for her "acceptable and not acceptable" presentation on raffle donations at the last meeting.

Old Business

List of Vets: Cindy Rampacek reported that three-quarters of the letters have been mailed.

The Turtle Survival Alliance will be having their 4th annual conference August 10– 13 in St. Louis.

New Business

The PARC Midwest Regional Working Group will meet September 7– 9, 2006, in Carbondale with keynote speaker Whit Gibbons.

The Michigan Society of Herpetologists' Expo will be held September 16, 2006, in Ionia, Michigan.

The 22nd Annual Midwest Herpetological Symposium is set for November 3– 5, 2006, in downtown Indianapolis, Indiana.

Roundtable

Cindy Rampacek brought an article about a young man in Pewaukee, Wisconsin, who put up signs to prevent turtle roadkill. He has promoted the protection of endangered turtle species.

Deb Krohn plans to enter the *Reptiles* magazine trip to Gabon, Africa, contest and encourages other herp lovers to do the same.

Kira Geselowitz offered to write a letter to Fear Factor regarding their cruelty to snakes and bring it to the next board meeting for approval. I was agreed that the show should not be watched.

Jason Hood mentioned that recently Jeff Lemm was successful in getting a restaurant in California to remove rattlesnake burgers from its menu by writing a letter to the California Fish and Wildlife. So one person can make a difference.

The meeting was adjourned at 9:15 P.M.

Respectfully submitted by Kira Geselowitz

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < http://www.themousefactory.com> .

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: books. *Cougar!* by Harold Danz; 1999, 310 pp., b&w photos, a well-researched, scholarly work, detailed info on over 150 attacks on humans, DJ, hardbound, $l5; *Orangutans—Wizards of the Rain Forest* by Anne Russon, 2000, 222 pp., over 100 color photos, history, behavior, rehab efforts at Camp Leakey, conservation, DJ, hardbound, $12; both of these books are ex-library but are in excellent condition; *Some Common Snakes and Lizards of Australia* by David McPhee, 1963 (1959), 125 pp., many b&w photos, small pocket book-size, spine slightly scuffed, softbound, $26; *Reptiles of Australia* by Charles Barrett, 1950, 168 pp., many b&w photos, figs., drawings, no DJ, hardbound, $80; *Eric Worrell's Australian Reptile Park*, 1968, 48 pp., many b&w photos, guidebook to exhbits, softbound, $7. Send e-mail address for complete list. All books in excellent condition except as noted. Postage and handling $2.50 for orders under $25, free for orders of $25 or more. William R. Turner, 7395 S Downing Circle W, Littleton, CO 80122, (303) 795-5128, e-mail: toursbyturner@aol.com.

For sale: Large vintage museum display case 1927, glass on three sides, oak skirt and frame, 6' × 6' × 2.5', built-in fluorescent fixture. Great for large snakes or lizards, $400. David McGowan, (773) 271-0793.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: info@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < http://www.bluechameleon.org> , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: The beautiful Amazon! Costa Rica from Atlantic to Pacific! Esquinas Rainforest Lodge, the Osa Peninsula, Santa Rosa National Park, and a host of other great places to find herps and relax. Remember, you get what you pay for, so go with the best! GreenTracks, Inc. offers the finest from wildlife tours to adventure travel, led by internationally acclaimed herpers and naturalists. Visit our website < http://www.greentracks.com> or call (800) 892-1035, e-mail: info@greentracks.com

Virtual Museum of Natural History at www.curator.org: Free quality information on animals—emphasis on herps—plus expedition reports, book reviews and links to solid information. Always open, always free.

Wanted: I'm looking for my soulmate. I want to settle down to a family before it is too late. But I have this problem. . . . When we get into hobbies and interests: old popular records, jazz and show tunes, and antique electronics are fine, but when I mention turtles, "What, are you crazy?" So maybe this is a better place to look. Please don't try to separate me from my turtles—at least not most of them. If interested, please drop a line to Ellis Jones, 1000 Dell, Northbrook IL 60062, telling a bit about yourself and giving a phone number.

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, July 26, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Robert Henderson** of the Milwaukee Public Museum will speak about his latest research on the "Tree Boas of Grenada."

At the August 30 meeting **Mike Redmer** will speak. Mike's program will be "A Pilgrimage to Panama Presented in PowerPoint: An Old-Fashioned CHS Travelogue, Sans Slides." This presentation will chronicle the highlights of Mike's recent trip to Panama in May 2006. The purpose of the trip was to see and photograph some of the last Panamanian golden frogs (*Atelopus zeteki*) remaining in the wild.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

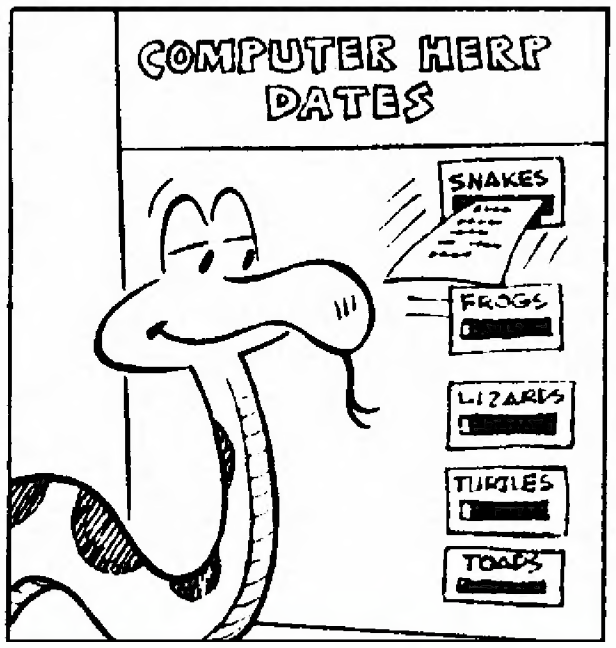
Board of Directors Meeting

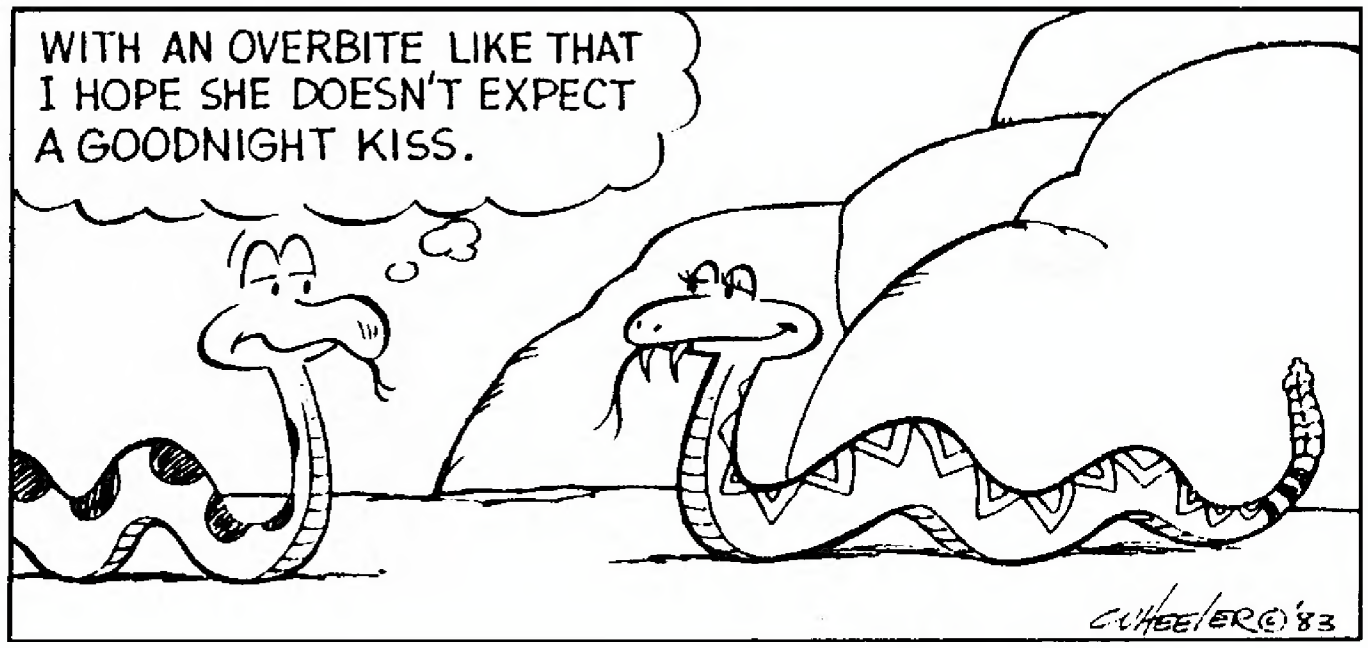
Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the August 19 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot to the left and behind the building.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

THE ADVENTURES OF SPOT





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